STATE OF MINNESOTA DISTRICT COURT

COUNTY OF RAMSEY SECOND JUDICIAL DISTRICT

- -

The State of Minnesota,
by Hubert H. Humphrey, III,
its attorney general,
and
Blue Cross and Blue Shield
of Minnesota,

Plaintiffs,

vs. File No. C1-94-8565

Philip Morris Incorporated, R.J.
Reynolds Tobacco Company, Brown &
Williamson Tobacco Corporation,
B.A.T. Industries P.L.C., Lorillard
Tobacco Company, The American
Tobacco Company, Liggett Group, Inc.,
The Council for Tobacco Research-U.S.A.,
Inc., and The Tobacco Institute, Inc.,

Defendants.

- -

DEPOSITION OF MURRAY SENKUS

Volume II, Pages 267 - 393

http://legacy.library.ucsf.edu/tid/ejn05a00/pdf
Source: http://www.industrydocuments.ucsf.edu/docs/qxhd0001

(The following is the continued deposition of MURRAY SENKUS, taken pursuant to Notice of Taking Deposition, by videotape, at the offices of Womble Carlyle Sandridge & Rice, Attorneys at Law, 200 West Second Street, 1600 BB&T Financial Center, Winston-Salem, North Carolina, on June 17, 1997, commencing at approximately 8:31 o'clock a.m.)

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I N D E X

EXHIBITS		DESCRIPTION	PAGE MARKED
Rodgman	1086	May 24, 1971 correspondence, Laurene to Senkus, Bates 50421 0018	298
	1087	"A GAP IN PRESENT CIGARETTE PRODUCT LINES AND AN OPPORTUNITY TO MARKET A NEW TYPE OF PRODUCT," March 28, 1972, Bates 50079 0776-84	300
	B	"The Health Consequences Of Smoking, CANCER, a report of the Surgeon General, 1982," cover and page 218	323

WITNESS	EXAMINATION BY	PAGE
Murray Senkus	Mr. O'Fallon	272
	Mr. Crist	316
	Mr. O'Fallon	367

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P R O C E E D I N G S

(Witness previously sworn.)

MURRAY SENKUS

called as a witness, being previously sworn, was examined and testified as follows:

ADVERSE EXAMINATION (cont'd)

BY MR. O'FALLON:

Q. Good morning, Dr. Senkus.

A. Good morning.

Q. How you doing today?

A. Just fine, thanks.

Q. Are you ready to resume your deposition?

A. Yes, I am.

Q. Yesterday when we left off, we were talking about document 1058.

A. I have it before me.

Q. Let me just ask you a couple preliminary questions. I may have asked these yesterday, but I haven't -- I didn't see them in the transcript and I could have just missed them, so --

MR. CRIST: I'm sorry.

Q. Was this a document generated by Dr. Teague in the ordinary course of R.J. Reynolds' business?

A. I would say so, yes.

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Source: http://www.industrydocuments.ucsf.edu/docs/qxhd0001

Q. And it was copied to you in the same course of business; correct?
A. If my name is on here. Yeah.
Q. And you recall seeing this document?
A. Yes, I have.
Q. Let's turn to page last three Bates numbers 466. Now one way that R.J. Reynolds was exploring changing the pH of cigarette smoke was to add ammonia; correct?
A. That was one way, yes.
Q. And that's what Dr. Teague is talking about here under "SMOKE ... AND OTHER SMOKE QUALITIES"; correct?
A. Yes.
Q. He says "In addition to enhancing nicotine 'kick', increasing the pH (increasing alkalinity) of smoke above about 6.0 causes other changes, particularly when the increase in smoke pH is achieved by adding ammonia to the blend"; right?
A. Yes, that's what it reads.
Q. I'm going to turn now to another document, and this is a document that's also been marked previously in another deposition. It's been marked as Plaintiffs' Exhibit 1060. It's a document that's Bates stamp numbered 50091 7535 through 50091 7548.

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Source: http://www.industrydocuments.ucsf.edu/docs/qxhd0001

Have you seen this document previously?
A. Yes, I have.
Q. Does this look like another document by Dr. Teague?
A. Yes.
Q. I'd like you to specifically turn to Bates number last three digits 545.
A. Yes.
Q. Now in general, this document, like the previous document, is talking about smoke pH and free nicotine; correct?
A. Yes.
Q. This may even be the precursor to that previous document?
A. This precursor to that?
Q. Yes.
A. I -- I don't know.
Q. I only say that because that one chart that we talked about in document Exhibit 1058 is also here in Exhibit 1060 at page 538, but do you see that? Look at the last three Bates numbers 538 of -- of this document, sir.
A. 5 --
Q. It's actually frontwards on this.
A. Oh, okay, yeah. Oh, yeah, there's that curve,

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yes.
Q. Yeah.
A. Okay.
Q. Do you recall whether this was a precursor to the -- whether Exhibit 1060 was a precursor to Exhibit 1058?
A. I -- I cannot. I don't know.
Q. Okay. Let's look again at -- let's turn back now to page 545.
A. 5 -- that's in this document?
Q. No, no, that's here in this one, 1060. I'm sorry, you were there before. We'll get back to that.
A. 545, okay, here we are.
Q. Under number six, Dr. Teague talks about what you at R.J. Reynolds felt you knew about Philip Morris and Brown & Williamson's product philosophies; correct?
A. You're looking at item number six?
Q. Yes, I am.
A. Uh-huh, okay.
Q. Dr. Teague states that "THEY," and he's referring to Philip Morris and Brown & Williamson, "APPEAR TO DESIGN PRODUCTS PRIMARILY TO DELIVER OPTIMUM NICOTINE IMPACT AND SATISFACTION -- AIMING

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ALSO AT A RELATIVELY BLAND SMOKE, LETTING FLAVOR FALL WHERE IT WILL"; correct?

MR. CRIST: Is your question is that what it says, Dan?

A. Okay. So what is the question?

Q. That's what that says right there; right?

A. That's what it says.

Q. And was that your understanding at the time you were with RJR as well?

A. See, what was the question that you asked me?

Q. Is that your understanding of how Philip Morris designed its products, that they were basically looking to deliver optimum nicotine impact and satisfaction, yet with a relatively bland smoke?

A. Well I don't agree with that. The way it's stated, it's kind of ambiguous.

Q. But that was generally your understanding of how Philip Morris or your belief about how Philip Morris designed its products; correct?

A. That's Dr. Teague's opinion, not necessarily my opinion.

Q. Okay. Are there any documents that you know of that you wrote that express an opinion that's contrary to that?

A. I -- I don't have any documents that I wrote

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that would comment on this particular view of Dr. Teague. This is -- as far as I can see, this statement he has is highly, I'd say, speculative.

Q. He'd been researching in part the Philip Morris and Brown & Williamson cigarettes; correct?

A. Did research? Well, he smoked them and had sort of a evaluation. When you say research on -- on the products, he didn't actually do hands-on research. He -- I think this is largely speculation.

Q. Well he and your department did research to determine the pH of the various products; correct?

A. Yeah, we -- we studied the pH of various products.

Q. Okay. One of Dr. Teague's other concerns was the fact that beginning smokers were smoking Marlboros; correct?

A. Were smoking? I -- I don't know he said -- I don't recall him saying that specifically.

Q. Okay. Look at --

A. He -- he may have. He may have. I don't know.

Q. Okay. Look at number eight. He says "BOTH MARLBORO AND KOOL ARE CURRENTLY SELLING WELL. WE UNDERSTAND THAT ABOUT 40 PERCENT OF BEGINNING SMOKERS ARE SMOKING MARLBOROS."

A. Oh, that's what it says.

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Source: http://www.industrydocuments.ucsf.edu/docs/qxhd0001

Q. Now did you understand when you were with R.J. Reynolds that over 50 percent of beginning smokers were people under the age of 18?

A. I did not understand that.

Q. Okay.

A. I -- I don't -- I do not -- did not understand that. I did not know that.

Q. So you didn't understand that generally the beginning smoker range is somewhere between 14 and 24?

A. A beginning smoker, 14 and 24? You're asking me did I understand that?

Q. Yes. Did you understand that that was what a -- is that the age period when people started to smoke?

A. As I was working for Reynolds, I did not ponder that question, as to what age -- what -- what effect age had to do with starting up smoking.

Q. Okay. You understood that starting smokers were your ultimate source of a replacement market; correct?

MR. CRIST: Objection to the form of the question.

A. I really -- as a research man in my capacity, I did not ponder that question.

Q. Okay. Did you have access to the other

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information in R.J. Reynolds, such as the NFO information and other marketing information, that demonstrated that well over 50 percent of smokers start smoking before they reach the age of 18?

MR. CRIST: Object to the form.

A. If it was in the literature, if it was in there, I don't dispute it.

Q. No, this is internal documentation. Were you, as the head of research, copied on any of that information or told any of that information at your various meetings?

MR. AVRAM: Could you clarify what you mean by "that information"? I think he --

MR. O'FALLON: Information that over 50 percent of beginning smokers start before they reach the age of 18.

MR. CRIST: Object to the form.

A. Well, as director of research, trying to develop new products, I was not concerned with that aspect of the business.

Q. Was that someone else's responsibility?

MR. CRIST: Object to the form.

A. Yes.

Q. You left those issues to the marketing department primarily?

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A. Beg your pardon?
Q. You left those duties to the marketing department primarily?
A. Well I -- you know, I didn't leave anything. It was -- I didn't delegate any responsibilities of that kind to anybody.
Q. Okay. Maybe I misspoke. R.J. Reynolds left those kinds of decisions to the marketing department?
A. To the marketing department? That's a fair statement.
Q. Okay. Dr. Teague goes on at number nine and kind of sets forth why he's concerned about these beginning smokers smoking Marlboros as opposed to your brands. He states "SUBSTANTIAL NUMBERS OF SMOKERS ARE LEARNING TO LIKE AND USE PRODUCTS WITH SMOKING QUALITIES SIGNIFICANTLY DIFFERENT FROM THOSE OF OUR STANDARD BRANDS. IF THE DIFFERENCE REMAINS OR INCREASES, THE PROBABILITY OF A SMOKER SWITCHING FROM A MARLBORO OR KOOL TO A WINSTON OR SALEM -- THAT IS FROM ONE DISTINCT TYPE TO ANOTHER -- IS FAIRLY LOW -- UNLESS HE SEES SOME COMPELLING REASON TO REALLY, IN A SENSE, RE-LEARN TO SMOKE"; correct?
A. That's what it says.
Q. Yeah. And that was a legitimate concern;

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correct?

MR. CRIST: Objection to the form.

A. Well this was Dr. Teague's opinion at that time.

Q. Was it your --

A. That's what --

Q. Oh, I'm sorry.

A. Yeah.

Q. Was it your understanding that smokers are very brand loyal?

A. Was it my understanding that smokers are brand loyal? Yes, I'll have to agree with that.

Q. As a matter of fact, cigarettes are one of the most brand-loyal products on the market; correct?

MR. CRIST: Object to the form of the question, calls for improper opinion testimony.

A. Well you're asking me to express an opinion regarding brand loyalties and brand preferences. As director of research, that really was not my concern.

Q. Well I understand that you may not have had a specific responsibility for it, but you spent some 30 years with this company. Certainly you understood a fair amount about the products your company produced; correct?

A. Yes, I did know.

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Q. And one of the facts that R.J. Reynolds knew was that cigarettes are a very brand-loyal product; right?

MR. CRIST: Same objection.

A. Well, you're saying that brands -- some departments in the company knew that. Whether it's a fact or not, I don't know, so --

Q. Well wasn't some of that information shared among management? I mean, you were in management for some 14, 15 years; right?

A. Yes, I was.

Q. Wasn't that type of information, basic fundamental information about R.J. Reynolds' products, the cigarette, wasn't that shared among the various management heads?

MR. CRIST: Objection to the form.

A. I'm trying to recall. Certainly there was a lot of information in marketing and sales that was not shared with me. I was concerned mainly with the tobacco technology.

Q. But there was also a fair amount of information in marketing and development that was shared with you; right?

A. There was some I happened to see, yes.

Q. Okay. And coming back to Dr. Teague's concern,

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what he's worried about, and he states it here, is "WE DO NEED TO WORRY ABOUT THE MANY BEGINNING SMOKERS, LEARNING TO LIKE A DIFFERENT TYPE OF CIGARETTE -- MARLBORO -- WHO MAY TEND TO STAY WITH THAT TYPE OF CIGARETTE, AND WHO MAY FIND IT DIFFICULT TO LEARN TO LIKE OUR PRODUCTS"; correct?

MR. CRIST: Object to the form.

A. That's what Dr. Teague says.

Q. And the bottom line is that these beginning smokers in fact are using Marlboro and you knew they were and are reluctant to switch to your products. That's a real distinct threat to R.J. Reynolds' market share; correct?

MR. CRIST: Object to the form.

A. Threat to Reynolds, you're saying?

Q. Market share.

A. I guess you're asking me now to comment on the overall marketing efforts of the company, and that -- that was a marketing concern and --

Q. Well it wasn't solely a marketing concern. It was now becoming a research and development concern because there was basically a push on to develop a product that was like Marlboro and to make sure that you had a product in this beginning smoker market; correct?

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MR. CRIST: Object to the form of the question, no foundation.

A. The studies were conducted, not on all competitive cigarettes, to learn their characteristics, so we made an effort to compete, yes.

Q. And again, you're not just studying these products, Marlboro and Kool, in the abstract. You're studying these products because at some point you're going to want to make a product that competes with them in terms of their pH and taste and nicotine impact; correct?

A. We were looking at their -- what we considered their chief characteristics, what was speculated to be its key point in maintaining the market, and we tried to match them.

Q. And one of the main reasons you're researching Marlboro is because Marlboro sales are increasing and starting to cut into your traditional sales of Winston and Camel; right?

MR. CRIST: Objection to the form.

A. Well this -- this was a marketing responsibility.

Q. Marlboro was on its way to becoming the bestselling cigarette in America; correct?

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A. Yes.
Q. When it did that, it was going to displace Winston, which had previously been the bestselling cigarette in America; correct?
A. Yes.
Q. That fact meant a lot of money lost to R.J. Reynolds, didn't it?
A. Put it that way.
Q. It's true; right?
A. Yes, uh-huh.
Q. And so one of the assignments that your group got was to study Marlboro and make sure that you could understand from a chemical, physical point of view why it was that Marlboro was doing so well and what R.J. Reynolds could do to compete with that Marlboro smoke; correct?
A. Certainly our work was directed at trying to improve and -- and compete with the competitors.
Q. I'm going to show you another document that's been marked Plaintiffs' Exhibit 10 -- oops, I'll keep that one -- Plaintiffs' Exhibit 1061. This is a two-page document Bates stamp numbered 50116 6152 through 6153 dated December 4th, 1973 from Frank Colby to Mr. R. A. Blevins; correct?
A. Yes.

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Q. What was Mr. Colby or Dr. Colby's position at the -- about this time, 1973?
A. Director of scientific affairs.
Q. That's the post that you'll ultimately succeed to; right? Don't you ult --
A. Oh, no, director of -- director of library.
Q. Oh, okay.
A. No, I misspoke.
Q. Okay. Was he part of your research and development department?
MR. CRIST: Excuse me for a second. Dan, I think for clarification, I think Dr. Colby was director of library. I think that's what the transcript -- what you guys both understood, but I don't think it's real clear on the transcript.
MR. O'FALLON: I'll ask it again.
THE WITNESS: Director of science information I guess his title was.
Q. Okay. Was that part of the research department?
A. Yes, it was.
Q. And so was he someone who reported to you?
A. Yes, he did.
Q. Okay. And here Dr. Colby is writing a memo talking about a "CIGARETTE CONCEPT TO ASSURE RJR A

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LARGER SEGMENT OF THE YOUTH MARKET"; correct?

A. That's what it said at the summary.

Q. In his summary he actually says "It is suggested to develop a new RJR youth-appeal brand based on the concept of going back - at least halfway - to the technological design of the WINSTON and other filter cigarettes of the 1950's"; correct?

A. That's what it says.

Q. Right. In his memorandum part, the second paragraph, he says, quote, "It is apparently established beyond a doubt that Philip Morris' Marlboro cigarette has a much stronger hold on the up and coming new generation of smokers than WINSTON or our other brands"; correct?

A. That's what it says.

Q. Very similar again to what Dr. Teague was talking about in his memo; correct?

A. Okay.

Q. He then suggests that basically another cigarette should be designed --

A. That's --

Q. -- to compete in this market; right?

A. That's the suggestion there, yes.

Q. And one of the things that he thinks should happen is that the cigarette should have more

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enjoyment or kicks, parenthetical, nicotine; right?
A. You're looking items one, two and three?
Q. Yeah, look at number two in specific.
A. Uh-huh. Okay, so that's what it says. What's the question?
Q. Well that's what he was suggesting, that you design a product that would have again more enjoyment or kicks nicotine; right?
A. I don't know what -- these people say "kick." I -- I -- I -- I don't know what that means.
Q. Okay. We've seen that now in a couple of memos, though; right?
A. Yes, we have.
Q. And again they've been used --
That word's been used in memos that were sent to you; right?
A. Yes, uh-huh.
Q. And these were people that were in your department; right?
A. Yes, they were.
Q. Okay. At the bottom Dr. Colby suggests that "... any desired additional nicotine 'kick' could be easily obtained through pH regulation"; right?
A. See, where does it say that?

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Q. Very last sentence on that first page.
A. Okay, that's what it says.
Q. He then states on the second page that it would be easy to develop the cigarette that he's talking about, this new youth-appeal cigarette; correct?
A. That's what he's talking about.
Q. Okay. In fact, R.J. Reynolds did develop such a youth-appeal cigarette by using ammoniated G7 sheet to alter the pH of its then-existing Camel filter cigarette; correct?
MR. CRIST: Object to the form.
A. Let's see, where does it say that?
Q. I'm asking you if you knew that from your memory as you sit here today.
A. Well they did work aimed at duplicating presumably -- that's what they thought or we thought would duplicate the Marlboro, and it was tested on the marketplace, and if I remember correctly, the results were -- on panel tests, outside panel tests, were unfavorable. I'm not sure.
Q. Okay. Because in fact they did go to market with a Camel filter that had ammoniated sheet; right?
A. I'm not -- I'm not familiar with that.
Q. Okay. I'm going to show you a document that's

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been marked previously as Plaintiffs' Exhibit 1062.

A. See, do we have a date on this document?

Q. I do not. It's not on the document. It may well be in the information that has been provided to us. It is after 1979, however, because if you look on the second page of the document, sir --

A. Yes.

Q. -- it says at the top "AMMONIATED SHEET WAS INTRODUCED INTO THE WINSTON KS PRODUCT IN 1979." So it appears that this document was written sometime after --

A. Okay.

Q. -- 1979.

On the front of the document it talks about the technology, ammoniation, and then defines ammoniation. It says ammoniation is "THE REATION OF AMMONIA WITH TOBACCO TO PRODUCE AMMONIATED TOBACCOS WHICH SMOKE DIFFERENTLY AND PRODUCE A MILDER SMOOTHER FLAVORED SMOKE"; correct?

A. That's what it says.

Q. Okay. It says "RJR BEGAN WORKING WITH AMMONIATION OF TOBACCO AND TOBACCO BY-PRODUCTS IN THE 1950S, BUT DID NOT APPLY THE TECHNOLOGY"; right?

A. That's what it says.

Q. It said "PHILIP MORRIS BEGAN USING AN AMMONIATED

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SHEET MATERIAL IN 1965 AND INCREASED USE OF THE SHEET PERIODICALLY FROM 1965 TO 1974"; correct?

A. That's what it said.

Q. It says "THIS TIME PERIOD CORRESPONDS TO THE DRAMATIC SALES INCREASE PHILIP MORRIS MADE FROM 1965 TO 1974"?

A. That's what it said.

Q. And again that's what we've been looking at in these documents --

A. Uh-huh.

Q. -- that have studied that time period when the pH in Marlboro was increasing; right?

A. Uh-huh.

Q. It said "RJR INTRODUCED AMMONIATED SHEET MATERIAL IN THE CAMEL FILTER PRODUCT IN 1974"; right?

A. That's what it says.

Q. It then says "BETTER MARKET PERFORMANCE WAS INDICATED IN THE SUBSEQUENT YEARS"; right?

A. That's what it says.

Q. So it appears that RJR ammoniated its tobacco in the Camel filter and as a result of that ammoniation sales increased; right?

MR. CRIST: Object to the form.

A. It says "WAS INDICATED." I'm not sure how

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substantial that was. I don't know the sales figures.

Q. But "BETTER MARKET PERFORMANCE WAS INDICATED" would mean that you had some increase in sales; right?

A. Presumably.

Q. Yeah. It also states that "LOW 'TAR' PRODUCTS AT RJR WERE DESIGNED WITH AMMONIATED SHEET MATERIAL BEGINNING IN 1974"; correct?

A. That's what it says.

Q. So it appears that 1974 was the year when R.J. Reynolds undertook to start ammoniating their tobacco and adjusting their pH; correct?

A. Yes.

MR. CRIST: Object to the form.

Q. On the next page it states that ammoniated sheet was introduced into Winston KS products in 1979; right?

A. Yes.

Q. It says "MARKET TESTS INDICATED SIGNIFICANT PRODUCT IMPROVEMENT"?

A. That's what it says.

Q. It then goes on to state that "RECENT INTERNAL PANEL TESTING OF PRODUCTS WITH AMMONIATED FLUE-CURED TOBACCO HAVE SHOWN CONSISTENT AND SIGNIFICANT PRODUCT

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IMPROVEMENT"; right?

A. That's what it says.

Q. It then defines the product characteristics created by ammoniated sheet; right?

A. Yes.

Q. Among those are "HIGHER SMOKE PH"?

A. Yes.

Q. "CLEANER TASTE WITH MORE FREE NICOTINE"?

A. Yes.

Q. "STRONGER PHYSIOLOGICAL IMPACT WITH LESS HARSHNESS"?

A. Yes.

Q. Now the Camel filter, once the ammoniated sheet was added, was directed at this beginning smoker market; correct?

MR. CRIST: Object to the form.

A. I don't know that to be true.

Q. I'm going to hand you a document that's been previously marked as Plaintiffs' Exhibit 1037. This is a one-page document dated January 23rd, 1975 and Bates stamp numbered 50577 5557.

Do you recognize this document?

A. At the moment I -- I don't.

Q. Okay.

A. No.

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Source: http://www.industrydocuments.ucsf.edu/docs/qxhd0001

Q. Who is Mr. C. A. Tucker?
A. He was I guess in marketing.
Q. Was he a vice president?
A. No. I don't recall that he was. Mr. C. A. Tucker, no, I don't think he was a vice president.
Q. Was that Charles Tucker? Was that his first name?
A. I -- I really don't know who that was. He -- as I remember, there was a Tucker in marketing.
Q. He was there for a number of years; correct?
A. I don't know his tenure in -- at Reynolds.
Q. In this memo, it states at the first "Our attached recommendation to expand nationally the successfully tested," quote, "'Meet the Turk' ad campaign and" our "new Marlboro-type blend is another step to meet our marketing objective"; right?
A. That's what it says.
Q. He then defines that marketing objective as to, quote, "To increase our young adult franchise"; right?
A. That's what it says.
Q. So basically what you've got is a Marlboro-type cigarette combined with a new advertising campaign, which I believe you indicated yesterday is important, all aimed at this young-adult franchise; correct?

http://legacy.library.ucsf.edu/tid/ejn05a00/pdf
Source: http://www.industrydocuments.ucsf.edu/docs/qxhd0001

MR. CRIST: Object to the form of the question.

A. I -- this is what it's saying. That's what the document says.

Q. Okay. He then goes on to further define that marketing objective, and he says, quote, "To ensure increased and longer-term growth for CAMEL FILTER, the brand must increase its share penetration among the 14-to-24 age group which have a new set of more liberal values and which represent tomorrow's cigarette business"; correct?

A. That's what he says.

Q. So in other words, R.J. Reynolds is aiming the Camel filter, this new blend with ammoniated sheet and altered pH and altered free nicotine, directly at the youth market and underage smokers; correct?

MR. CRIST: Object to the form of the question.

A. That's what that -- that's what it reads.

Q. And they're doing that because it's these beginning smokers, these underage smokers, that represent tomorrow's cigarette business for R.J. Reynolds Tobacco?

MR. CRIST: Object to the form.

A. They are doing it, did you say?

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Q. I said -- my question was: So in other words, R.J. Reynolds is aiming the Camel filter, this new blend with ammoniated sheet and altered pH and altered free nicotine --

MR. CRIST: I think you already answered that question.

Q. No, I already asked that. Let me state that again. Wrong -- wrong spot on the computer screen.

R.J. Reynolds is doing this, aiming this cigarette at these beginning smokers, these underage smokers, because it's these underage smokers that represent tomorrow's cigarette business for R.J. Reynolds Tobacco Company?

MR. CRIST: Same objection.

MR. AVRAM: Clarification: You're asking him if R.J. -- if R.J. Reynolds is doing this?

MR. O'FALLON: I'm asking if that's the reason they're doing it.

A. I -- I don't know how to answer that question. Certainly as a scientist, I -- I -- I can't comment on that question.

Q. As a scientist and a member of RJR management --

A. Uh-huh.

Q. -- and a longtime employee of R.J. Reynolds Tobacco, did you ever write a memo to management

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Source: http://www.industrydocuments.ucsf.edu/docs/qxhd0001

telling them that they shouldn't be marketing to underage smokers?

MR. CRIST: Object to the form of the question.

A. I don't recall writing to marketing or even saying anything, what their marketing objectives should be. I certainly never did that, to define their marketing objectives.

Q. Let's turn for a second to another area of your nicotine research. One of the other areas that R.J. Reynolds was concerned about and your department was concerned about -- about was defining the habituating level of nicotine that needed to be in cigarettes; correct?

MR. CRIST: Object to the form.

A. The habituating level of nicotine?

Q. Right.

A. So what is the question again?

Q. I said that's one of the things that your department was going to study, is what was that habituating level of nicotine, that -- that level of nicotine needed to keep the smoker addicted?

MR. CRIST: Same objection.

A. I do not recall any -- I don't recall I specific -- the way you -- you stated that, I do not

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Source: http://www.industrydocuments.ucsf.edu/docs/qxhd0001

recall defining the level of nicotine to, as you put it, assure habituation of smokers. That's the way you put it, is that?

(Plaintiffs' Exhibit 1086 was marked for identification.)

THE WITNESS: Uh-huh.

BY MR. O'FALLON:

Q. I've marked as Exhibit 1086 a one-page document dated May 24th, 1971 and Bates stamp numbered 50421 0018.

A. Yeah, I --

Q. Do you recognize that document?

A. I recognize that document now, yes, and I see the statement.

Q. Okay. This is a doc --

This is a document that's written by Mr. Laurene to yourself; correct?

A. Yes.

Q. It was written in the ordinary course of business; correct?

A. Yes.

Q. And sent to you in the ordinary course of business; correct?

A. Yes, uh-huh.

Q. And kept by you in the ordinary course of

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Source: http://www.industrydocuments.ucsf.edu/docs/qxhd0001

business?
A. Uh-huh.
THE REPORTER: Your answer's "yes"?
THE WITNESS: Beg your pardon, yes, I answered "yes."
Q. Mr. Laurene states that "As a result of discussions with Dr. Teague and" the "Section Heads, the following are suggested as possible IBT undertakings"; correct?
A. Yes, that's what it reads.
Q. Number three talks about the topic we've been discussing here previously today, the "Difference in nicotine impact from free nicotine and bound nicotine"; correct?
MR. CRIST: Objection to the form.
A. Well actually, you know, I want to remind you again this was written by Dr. Laurene. These are his interpretations, and I don't necessarily agree with some of the things he says in here.
Q. Well he's just asking you and suggesting to you that these are areas of research; right?
A. That's what he's suggesting.
Q. Right. And number four, he's suggesting an area of research is the, quote, "Habituating level of nicotine (How low can we go?)"; correct?

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A. Yeah. Well that statement, to me, has no meaning, and insofar as I know, we never embarked on any project dealing with number four because that statement, to me, has no meaning.

Q. So is it your testimony that at no time did the research department under you ever either look into or determine the amount of nicotine that was required by smokers to maintain the habituation?

A. Absolutely not.

(Plaintiffs' Exhibit 1087 was marked for identification.)

BY MR. O'FALLON:

Q. I'm going to show you a document that's been marked as Plaintiffs' Exhibit 1087.

A. Yes.

Q. It's a document Bates stamp numbered 50079 0776 through 0784.

A. Yes.

Q. Have you seen this document previously?

A. Yes, I have.

Q. This is a document from Dr. Teague to Mr. Vassallo and yourself; correct?

A. That's right.

Q. And what he's talking about is "A GAP IN PRESENT CIGARETTE PRODUCT LINES AND AN OPPORTUNITY TO MARKET

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Source: http://www.industrydocuments.ucsf.edu/docs/qxhd0001

A NEW TYPE OF PRODUCT"; correct?

A. Yes.

Q. Okay. In the second paragraph he talks about the milligrams --

A. Is that on page --

Q. On the very first page.

A. -- 76? Yes.

Q. Right. He talks about the desired nicotine delivery; correct?

A. What paragraph is that?

Q. Look at the second paragraph right in the middle.

A. Okay, uh-huh.

Q. He says "That is, at the desired nicotine delivery, calculated to be 1.3 milligrams, the smoker will choose the cigarette offering the lowest Tar/Nicotine Ratio, if other qualities are" satisfied; correct?

A. Yes, uh-huh.

Q. Apparently work had been done to determine that the smokers' nicotine requirement was 1.3 milligrams; correct?

MR. CRIST: Object to the form of the question.

A. Okay. What -- what is your question?

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Q. Well it appears that someone in your department has calculated the daily requirement -- or the per-cigarette requirement of nicotine to be 1.3 milligrams; correct?

MR. CRIST: Same objection.

A. Let me read this now.

I don't know of any work published or otherwise that would lead to this conclusion that you need 1.3 milligrams of nicotine.

Q. What Dr. Teague says is that a smoker, that any smoker on a given day, has a fixed per-hour and per-day requirement for nicotine; correct?

A. If he says that, that's his opinion. I don't know that that's a widely held opinion. I -- I can't -- I do not subscribe to -- subscribe to the idea that there is for smokers an optimum nicotine delivery.

Q. So you don't subscribe to the fact that for every smoker, there is basically a set nicotine delivery that that smoker --

A. I do not, no.

Q. -- has to get per cigarette?

A. No.

Q. And you're not familiar with any of the RJR Reynolds research that ultimately confirmed that?

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MR. CRIST: Objection to the form of the question.

A. No, I do not. This -- this would require study of -- of nicotine intake by smokers. I don't recall we ever conducted such a study.

Q. You certainly could have; right?

MR. CRIST: Objection to the form.

A. I -- I would not recommend such -- such a study because it would entail invasive testing of human beings, so whatever I know about nicotine delivery I find in the literature from people like Russell and some other people, but we -- we didn't conduct any studies that would show an optimum delivery for smokers. To begin with, styles of smokers change, are so different from smoker to smoker, so --

Q. But each smoker has their own certain level of nicotine they require; right?

MR. CRIST: Objection to the form.

A. I -- I don't understand that question. That you're saying each smoker has a certain level of nicotine that he requires?

Q. Yes.

A. Hmm, there's no way to determine that. I mean, you're suggesting that one would measure nicotine in a smoker, and we would not have done any invasive

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analyses of -- of blood, for example.
Q. Why not?
A. That's an invasive study on human beings.
Q. What's wrong with that?
A. We just chose not to do it.
Q. It isn't unethical to do that kind of a study, is it?
A. Beg your pardon?
Q. It certainly isn't unethical to do that kind of a study, is it?
MR. CRIST: Object to the form of the question, calls for improper opinion.
A. It is not customary either at Reynolds or I think any other tobacco company to do blood analysis of smokers. If -- it would be difficult to conduct.
Q. Well let's -- let's talk about this for a second. What Dr. Teague says starting on page 782 --
MR. CRIST: 782.
Q. -- he says "In theory, and probably in fact" --
A. Where are you reading at?
Q. I'm starting at the middle of the page, the first -- the second paragraph. Do you see that?
A. Okay.
Q. He says "In theory, and probably in fact, a given smoker on a given day has a rather fixed per

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hour and per day requirement for nicotine"; correct?
A. That's what it says.
Q. Okay. "Given a cigarette that delivers less nicotine than he desires, the smoker will subconsciously adjust his puff volume and frequency" --
A. Yes.
Q. -- "and smoking frequency" --
A. That's what it says.
Q. -- "so as to obtain and maintain his per hour and per day requirement for nicotine (or, more likely, will change to a brand delivering his desired per cigarette level of nicotine)"; correct?
A. That's what it says.
Q. In other words, whether he smokes a cigarette with a high nicotine content as reported by FTC testing or a low nicotine content as reported by FTC testing, he's going to smoke either of those two cigarettes in such a way that he obtains the same amount of nicotine from both; correct?
MR. CRIST: Objection to the form of the question.
A. You're saying that regardless -- the way you're putting it, regardless of tar value --
Q. Regardless of nicotine, FTC nicotine value.

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A. Yeah, okay, that he will adjust the smoking style to -- to correct for the -- if he smokes a lower-tar cigarette, he will adjust the smoking style to get the same amount of nicotine, that's what you're saying?

Q. Right.

A. That is not necessarily so.

Q. That's known as smokers' compensation; correct?

A. Well, I know in my experience I have known people that, say, smoking a high tar, high nicotine some years later would be smoking a high -- low tar, low nicotine and smoke the same number of cigarettes and have the same style. They adjust slowly to that nicotine.

Q. But they still adjust to the nicotine; correct?

A. But they get less nicotine.

Q. Eventually, but not initially?

A. Well I don't know about that.

Q. And RJR in fact subsequently when it actually hired people to do biobehavioral research in the '80s confirmed that smoker compensation actually took place; correct?

MR. CRIST: Objection to the form of the question, no foundation.

A. I don't know about that. In 1980 I wasn't

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here.

Q. I mean, part of the problem was that you at R.J. Reynolds had no biobehavioral department during this time period in the 1970s; right?

A. We did not.

MR. CRIST: Dan, when -- oh, I'm sorry. When it's appropriate to take a break, maybe we can do that.

MR. O'FALLON: I'd just like to get through this document.

MR. CRIST: Okay. I also have just one very brief comment I want to make on the record.

BY MR. O'FALLON:

Q. Dr. Teague goes on to state that "Thus, despite the philosophy of our critics, there can be no virtue or logic in reducing per cigarette nicotine level below that desired by the smoker"; correct?

A. That's what it says.

Q. He also says "Additionally, if this be true, and if all leading cigarette brands deliver about the same amount of 'tar' per unit of nicotine -- that is, all have the same Tar/Nicotine Ratio -- then regardless of which cigarette the smoker chooses, in obtaining his daily nicotine requirement he will receive about the same ... amount of 'tar'";

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correct?
A. That's what it says.
Q. So that would mean that a smoker -- that the same smoker smoking a high-tar cigarette and the -- and the same smoker smoking a low-tar cigarette is in reality going to get the same amount of tar from either one of those cigarettes?
MR. CRIST: Object to the form.
A. Not necessarily.
Q. That would follow from what Dr. Teague is saying right here; correct?
A. Well that's his opinion.
Q. Right. So that would mean that a person who goes out and buys a low-tar cigarette thinking that they're actually going to get less tar is being deceived; right?
MR. CRIST: Objection to the form of the question, calls for speculation.
A. A person that -- you're saying a person who smokes a low-tar cigarette is being deceived?
Q. A person who buys a low-tar cigarette thinking they will actually get less tar when they smoke that cigarette is being deceived because in fact that person is going to smoke that cigarette for a certain level of nicotine, and whatever level of nicotine he

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gets is going to be followed by a similar level of tar?

MR. CRIST: Objection to the form of the question.

A. Well, that's not necessarily so.

Q. It's true if Dr. Teague is correct in this document in his theory of smoking compensation for nicotine; correct?

MR. CRIST: Object to the form.

A. Well that's Dr. Teague's opinion as stated there.

Q. Okay. What Dr. Teague is saying here is that the only way that you change that, the only way you can actually give a smoker a certain level of nicotine and reduce the tar that that smoker gets, is by altering the tar-to-nicotine ratio; correct?

A. That's what he says, yes, uh-huh.

Q. And that's what he's advocating, is a cigarette that alters, where R.J. Reynolds alters, the tar-to-nicotine ratio; correct?

A. Yes, uh-huh.

Q. And he believed that could be done; correct?

A. He believed that could be done, you say?

Q. Yes.

MR. CRIST: Object to the form.

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A. He believed it could be done, yes.
Q. During the time that you were with RJR up until the time you retired in 1979, did RJR ever consciously manipulate the tar/nicotine ratio as suggested by Dr. Teague in this 1972 memo?
MR. CRIST: Object to the form.
A. Let's see, 1979. Insofar as I know, other than relying on tobacco in storage, we did not manipulate nicotine in a product.
Q. The tar/nicotine level, the tar/nicotine ratio, did you manipulate the tar/nicotine ratio?
A. I don't know what you mean by that "manipulate."
Q. Consciously alter it. I mean, one of the things that Dr. Teague is stating here is that it seems like all the cigarettes on the market have about the same tar-to-nicotine ratio. He's suggesting that you consciously manipulate it so you get a much lower tar/nicotine ratio; correct?
MR. CRIST: Object to the form.
A. If you look at the tar/nicotine values as reported in the FTC, there is no evidence of manipulation because these are published data as determined by the FTC procedure.
Q. But what Dr. Teague is basically stating here is

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the FTC procedure has no relevance to what the smoker actually gets; correct?

MR. CRIST: Objection. It's been asked and answered.

A. Where does he say that?

Q. That's the implication of what he's saying. What he's saying is that regardless of what the FTC numbers are, each smoker has a certain level of nicotine they smoke for and that's going to be followed by a certain level of tar they get in order to get that level of nicotine and that's their actual delivery regardless of what the numbers on the package say?

MR. CRIST: Objection to the form.

A. So what was that question again? I guess you're saying -- you're asking me what Dr. Teague said, and of course --

Q. If Dr. Teague is right, the FTC numbers are irrelevant; correct?

MR. CRIST: Object to the form.

A. Now how do you -- how do you -- what basis do you have for saying that?

Q. That's what we've been talking about here for the last number of minutes.

A. You're saying --

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MR. CRIST: Objection to the form. You're arguing with him, Dan.

A. Okay. Now you're -- you're -- you're saying that Dr. Teague's re -- what was that question again?

Q. I said if Dr. Teague is right and each smoker smokes for a certain level of nicotine and necessarily a certain level of tar follows that level of nicotine, then the FTC numbers have no meaning as to what the smoker actually receives?

MR. CRIST: Objection to form.

A. But I don't agree with that.

Q. Did R.J. Reynolds ever take out advertisements and tell the smokers that, "Hey, the FTC numbers may or may not have any relevance to what you, the smoker, actually receive in terms of tar and nicotine"?

A. I don't recall Reynolds ever doing that.

Q. So they allowed these FTC numbers to sit out there and mislead the smoker?

MR. CRIST: Objection to the form of the question, calls for speculation and improper opinion testimony.

MR. AVRAM: Take a break now, Dan?

A. The -- the FTC methods was developed by the

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government to enable smokers to make a comparison between -- from brand to brand. That was the purpose of the FTC analysis.

Q. And R.J. Reynolds never took out advertisements or published articles that told the smoking publish -- public that those FTC numbers are completely irrelevant to what a smoker actually receives?

A. Of course I repeat --

MR. CRIST: Objection to the form of the question. It's been asked and answered.

A. I repeat it was not responsibility of Reynolds to comment on the FTC. It was obvious the FTC decided that -- that there is a need to enable the smokers to make a comparison from brand to brand.

MR. CRIST: Dan, if I can --

MR. O'FALLON: At this point I am concluding my cross-examination of Dr. Senkus.

MR. CRIST: Thank you. At this point I would just like to make one comment on the record, and that is that Mr. O'Fallon has referred to -- today to Plaintiffs' Exhibits 1062 and Plaintiffs' Exhibit 1087, both of which have on the documents that they're confidential pursuant to the Minnesota tobacco litigation, and so accordingly I would

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designate the portions of the transcripts that relate to those two documents as such. And we'll take a break now.

THE REPORTER: Off the record, please.

(Recess taken.)

BY MR. O'FALLON:

Q. Dr. Senkus, I just have a couple follow-up questions. I was wrong when I said I was done. I just have a couple cleanup questions.

A. Uh-huh.

Q. Are you paying Mr. Avram for his time?

A. No, I'm not.

Q. Do you know who is?

A. Reynolds is.

Q. Are you aware that some 600-plus documents are being claimed attorney-client privileged in the Minnesota litigation that were either sent by you or to you or you're one of the recipients on those documents?

MR. CRIST: Object to the form.

A. Am I aware of that?

Q. Yes.

A. I -- I don't -- I don't know what the -- what number was sent. I'm not familiar with the figure.

Q. Have you filed any affidavit in the Minnesota

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litigation concerning those documents?
A. I myself?
Q. Yes.
A. No, I have not.
Q. Have you been asked for an affidavit concerning those documents?
A. No, I have not.
Q. Specifically as to documents that you authored, have you been asked for any affidavit concerning privileged documents in the Minnesota litigation?
MR. CRIST: Object to the form.
A. What -- let me -- repeat the question again, please.
Q. Specifically concerning documents you authored, have you been asked for any affidavit concerning documents that you authored that have been claimed as either work product or attorney-client privileged in the Minnesota litigation?
A. No, have not, huh-uh.
MR. O'FALLON: I have no further questions.
THE REPORTER: Off the record, please.
(Discussion off the record.)

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DIRECT EXAMINATION

BY MR. CRIST:

Q. Dr. Senkus, I'd like to follow up on some of the questions which Mr. O'Fallon asked you, and basically I think what makes the most sense for -- sense for us is to kind of go through those in pretty much the same sequence that he did, if that's okay.

A. It's fine.

Q. Okay. Yesterday you indicated, Dr. Senkus, that you were born August 31, 1914.

A. Yes.

Q. And so how old does that make you today?

A. I'll be 83 on August 31.

Q. Okay. So today you're 82 and soon to be 83?

A. Soon to be. I'm being reminded of that.

Q. Okay. And I believe that you also testified in response to one of Mr. O'Fallon's questions that you have been retired from Reynolds since 1979.

A. Right.

Q. And so you have not been an employee of the company now for 18 years?

A. That's right.

Q. And the matters that Mr. O'Fallon has been asking you, therefore, date at least 18 years and at some times 46 years back; is that right?

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MR. O'FALLON: Objection, leading.

A. 46 years going to what?

Q. I believe that you started, according to your testimony, in 1951.

A. In 1951, yes, that makes it 46.

Q. So the matters he's been asking you about then or --

Can you tell us whether or not the matters he asked you about yesterday related with respect to your employment between 18 and 46 years ago?

A. Yes.

Q. Okay. Now he asked you about your tenure as director of scientific affairs between 1975 and 1979. Do you remember that?

A. Yes, I do remember that.

Q. And among the things that you told him you did during that period of time was to attend various, I think as you described them, industry groups or industry meetings. Do you remember that?

A. Yes.

Q. And one of those that you referred to is CORESTA.

A. Yes, I remember that.

Q. And I think you indicated that there were 101 members of CORESTA.

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A. Yes.
Q. Did CORESTA hold periodic conferences?
A. Yes, CORESTA held periodic conferences.
Q. And can you tell me who attended the periodic conferences that CORESTA held? Well first of all, how -- you say they were periodic. How frequently did CORESTA have these conferences?
A. Once each year there's the main conference, but there were also midyear and quarter-year conferences of four technological groups within CORESTA.
Q. With respect to these annual conferences, Dr. Senkus, can you tell us who would attend or be invited to attend these meetings.
A. It was an open invitation to everybody to attend, so tobacco companies, the members' companies were represented, and also people other than the members of the companies would -- would attend. Well for example, people from agronomy departments in the universities from Lexington, Tennessee and -- and Kentucky and throughout here, and also suppliers of cigarette paper and different company suppliers attended and people like Hoffmann from the ani -- the -- forget the name of the com -- association he's with.
Q. AHF, American Health Foundation?

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A. AHF, yes, American Health Foundation, people like that.

Q. And also would -- would employees of various governmental organizations like the United States Department of Agriculture or foreign equivalence of that?

A. Yes. As a matter of fact, yes, T. C. T-s-o from U.S. Department of Agriculture took an active part in the meeting. In fact one time in Maryland he was the chairman of a meeting that was held in Maryland, from USDA.

Q. Now one other organization that you referred to, Dr. Senkus, was TCRC or the Tobacco Chemists Research Conference.

A. Yes.

Q. Do you remember that?

A. Uh-huh.

Q. Okay. Did they hold periodic conferences?

A. Annually.

Q. Who would attend these conferences typically?

A. Papers were presented at those meetings by most of the tobacco companies. Papers were also presented from paper manufacturers, also papers from equipment suppliers, like American Machine Foundry -- Foundation, so there was a wide representation of

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papers relating to tobacco technology.
Q. And were there people other than --
Were there people who attended TCRC conferences other than tobacco company scientists and scientists from various suppliers to the tobacco companies?
A. Definitely, yes.
MR. O'FALLON: Objection, leading.
Q. Can you tell us who else would attend TCRC conferences?
A. Well from the universities, papers were presented in agronomy section from NC State Agronomy Department, from University of Kentucky Agronomy Department, from University of Virginia Agronomy Department. Papers were presented in the agronomy field re -- relating to tobacco.
Q. Okay. Were there -- you mentioned Dr. Hoffmann.
A. Dr. Hoffmann presented papers. At one point there were probably as many as ten papers at some of those meetings given by researchers in -- in that -- in that organization.
Q. And by researchers in that organization, you're referring to the American Health Foundation?
A. Yes, Hoffmann for one and some other people.
Q. What about --

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A. Oh, yes, and also there were papers presented by the -- it's a government laboratory, was in Athens, Georgia. It was part of USDA, presented papers from Athens, Georgia.

Q. Okay. Dr. Senkus, yesterday Mr. O'Fallon showed you a copy of what has been marked as Plaintiffs' Exhibit 1051 and asked you some questions about the first two paragraphs under the caption "What About Laboratory Experiments?"

A. I recall that.

Q. I want to turn back to that, but first, Dr. Senkus, do you remember ever having seen this document published anywhere?

A. I have not.

Q. Okay. Now with respect to the first two paragraphs of Exhibit 1051 under "What About Laboratory Experiments?" Mr. O'Fallon -- strike that.

MR. CRIST: Let me ask that this be marked as defendants' exhibit next in order.

MR. O'FALLON: Is this a document that I designated?

MR. CRIST: No.

MR. O'FALLON: Is this a document that you designated in a predesignation?

http://legacy.library.ucsf.edu/tid/ejn05a00/pdf
Source: http://www.industrydocuments.ucsf.edu/docs/qxhd0001

MR. CRIST: This is a document which was publicly available.

MR. O'FALLON: So your answer to my question is no, you did not predesignate this document?

MR. CRIST: This -- I don't believe we predesignated any documents.

MR. O'FALLON: You're required to predesignate documents before you use them, sir.

MR. CRIST: We're not required to predesignate documents that we -- that -- before we use them unless it's a document not previously produced in the litigation.

MR. O'FALLON: I'll object to your use of this document due to your failure to predesignate it.

(Discussion off the stenographic record.)

MR. O'FALLON: Is it your position that if a document has been previously produced in this litigation, that we don't have to predesignate it?

MR. CRIST: No, that is not my position. That's not what I said. What I said is -- what I said is that the terms of the order with respect to the predesignation require us a day in advance to give you documents which have not been previously

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produced, which are otherwise not available to you.

MR. O'FALLON: My objection stands.

(Senkus Exhibit B was marked for identification.)

BY MR. CRIST:

Q. Dr. Senkus, let me hand you what has been marked as Senkus Exhibit B, which is the cover page and page 218 of the 1982 Surgeon General's report. And I've highlighted a sentence there, which is in the second paragraph under "Research Needs and Priorities," and does it say, Dr. Senkus, "Attempts to induce significant numbers of bronchogenic carcinoma in laboratory animals were negative in spite of major efforts with several species and strains"?

A. That's what it says.

MR. O'FALLON: Objection.

Q. And, Dr. Senkus, returning back to Exhibit 1051, is that substantially the same thing that is said in the first two paragraphs under the caption "What About Laboratory Experiments?"

MR. O'FALLON: Objection, leading.

A. That's essentially what those two paragraphs say.

Q. The -- let me make sure I understand your testimony, Dr. Senkus.

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Source: http://www.industrydocuments.ucsf.edu/docs/qxhd0001

The first two paragraphs in 1051 are or are not substantially the same as what was said in Exhibit B, in the 1982 Surgeon General's report?

MR. O'FALLON: Objection, leading.

A. See, you're -- you're talking about the first two paragraphs in the section "What About Laboratory Experiments?"

Q. Yes, sir.

A. That's what you're talking about, and I read this sentence from the Surgeon General's report, so what -- what was your question?

Q. Are those or are they not substantially the same?

A. The two are in agreement.

Q. Okay. Now --

MR. O'FALLON: Objection, leading.

Q. -- Mr. O'Fallon asked you to read those two paragraphs under "What About Laboratory Experiments?" but there are more than two paragraphs under that, aren't there?

A. Yes.

Q. Would you read into the record, please, Dr. Senkus, the next paragraph.

A. The next long paragraph?

Q. Yes, sir.

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Source: http://www.industrydocuments.ucsf.edu/docs/qxhd0001

A. "In fact, during 1980 the U.S. National Cancer Institute decided to terminate an experiment in which beagle dogs were made to inhale fresh, whole cigarette smoke daily for several years. The study was cancelled earlier than planned because, according to a" governor -- "government spokesman, it was obvious to the scientists that the dogs were not developing cancer," and in brackets "(Three years later, these findings have yet to be published.)"

Q. And do you remember Mr. O'Fallon -- O'Fallon yesterday asking you, Dr. Senkus, whether or not efforts had been made to do another dog inhalation study? Do you remember those questions?

MR. O'FALLON: Objection, mischaracterizes. I believe it was efforts by R.J. Reynolds Tobacco.

A. He asked me -- repeat that question again.

Q. My question is: Do you remember there were questions yesterday about whether efforts were made to repeat the smoking dogs study that he asked you about yesterday by Dr. Auerbach? Do you remember him asking you about that?

MR. O'FALLON: Objection, leading.

A. Well I don't remember that.

Q. Okay. In the context --

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MR. CRIST: Mr. Reporter, do you have Exhibit 1080?

THE WITNESS: 1080?

MR. CRIST: I got it. I found it. Thank you.

BY MR. CRIST:

Q. In the context, Dr. Senkus, of the discussion about Dr. Auerbach, Mr. O'Fallon showed you what had been marked as Plaintiffs' Exhibit 1080.

A. Yes.

Q. Do you remember him showing you this document yesterday?

A. I do.

Q. And he at one point -- point in time suggested to you that the purpose of the meeting to which this document refers was to poke holes in Dr. Auerbach's study. Do you remember that?

A. Yes.

Q. Now, and he took you through a couple of the criticisms that are registered in Exhibit 1080. Do you remember that? He asked you, for example, under section three on page two about the what is described here as "... the photographic quality of the slides is unbelievably poor." Do you remember that?

A. Yes, uh-huh.

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Source: http://www.industrydocuments.ucsf.edu/docs/qxhd0001

Q. Dr. Senkus, do you recall that that observation is one which was confirmed by IARC, the International Agency for Research into Cancer?

MR. O'FALLON: Objection, leading.

Q. Do you recall?

A. Yes, yes.

Q. And, Dr. Senkus, Mr. O'Fallon also directed your attention to the second paragraph under section three. Do you remember that?

A. Yes.

Q. He read you, however, only the first sentence of that paragraph, and there are only two sentences; correct?

A. Yes.

MR. O'FALLON: Objection.

A. Uh-huh.

Q. Would you read the second sentence or read -- why don't you read the entire thing, the entire second paragraph under section three.

A. "Under any circumstances, only one of the slides suggests a carcinoma. None of the others could be regarded as cancerous."

Q. With respect to the third paragraph, he didn't ask you to read that yesterday, did he?

A. No, he did not.

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Q. You did, however, make reference or --

Do you recall yesterday making reference to the fact as recorded here that the Journal of the American Medical Association rejected Dr. Auerbach's manuscript?

MR. O'FALLON: Objection, leading.

A. I referred to the JAMA rejection of Dr. Auerbach's paper.

Q. Okay. Would you read that paragraph, please, into the record.

A. "Dr. Sommers assumes that it is because of the poor quality of the slides that the Journal of the American Medical Association has finally rejected Dr. Auerbach's paper. However, the paper is scheduled to appear in" the "ARCHIVES OF" -- "OF ENVIRONMENTAL HEALTH, Volume 21, Number 6, December 1970."

Q. So this document then notes that far from poking holes, the Journal of the American Medical Association itself had rejected Dr. Auerbach's report?

A. That's right.

MR. O'FALLON: Objection, leading.

Q. And in answer to Mr. O'Fallon's question of yesterday, the document also indicates that

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Dr. Auerbach's paper was scheduled for publication; correct?

MR. O'FALLON: Objection, leading.

A. Yes.

Q. Okay. Now, Mr. O'Fallon also did not ask you to read the next paragraph.

A. The last paragraph?

Q. Do you remember --

MR. O'FALLON: I'll stipulate that there's numerous paragraphs of numerous documents that I didn't ask him to read.

A. You're asking me to read the -- the last paragraph?

Q. Do you remember yesterday Mr. O'Fallon did not ask you?

A. Did not ask, no.

Q. Okay. Would you read the last paragraph into the record.

A. "According to Dr. Fagan of Philip Morris, some 20 pathologists throughout the United States would not commit themselves that Dr. Auerbach has produced cancer in dogs, as he claims. While many of these pathologists may be a part of what one might call" an "anti-tobacco group, nonetheless, they seriously questioned Dr. Auerbach's conclusions."

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Source: http://www.industrydocuments.ucsf.edu/docs/qxhd0001

MR. O'FALLON: Objection, called for hearsay.

Q. Now, Dr. Senkus, do you recall that as published in the Archives of Environmental Health by Dr. Auerbach there was a higher incidence of lung cancer in the control dogs than there were in the smoke-exposed dogs?

A. That's right.

MR. O'FALLON: Objection, leading, lack of foundation.

Q. And, Dr. Senkus, for the reasons -- or strike that.

Do you recall yesterday when you were asked by Mr. O'Fallon about the Auerbach study you told him you didn't think it was significant?

A. That's right.

Q. Okay. And were the reasons that are set forth in section three here and the other things that we've talked about among the reasons why you didn't believe it to be significant?

A. That's right.

Q. Now he also yesterday asked you, Dr. Senkus, in this connection about Exhibit 1081. Do you recall that?

A. Yes.

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Q. Dr. Senkus, is there -- based upon your experience, including your 38 years as a scientist at Reynolds, is there anything wrong with research scientists from a company meeting with a government employee?

MR. O'FALLON: Ex parte?

MR. CRIST: Object to the form of that interjection, move to strike it.

A. There is nothing wrong with that.

Q. Now is there anything wrong, based on your experience, with submitting, as you described it yesterday, pertinent scientific data to a government employee?

MR. O'FALLON: Ex parte?

MR. CRIST: That's unnecessary. Please stop it.

A. You asked me if there's anything wrong us submitting data to government employees?

Q. Yes.

A. Nothing wrong with that.

Q. Now, with respect to these two documents, Exhibits 1080 and 1081, Dr. Senkus, there -- both of these relate to -- well strike that.

With respect to Exhibit 1081, Dr. Senkus, that relates to a scheduled presentation by Dr. Auerbach

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on his smoking dog experiment at the NCI TWG; correct? I'm sorry, I think we're -- I think 1080 is the one I was referring to now.

A. Okay, fine.

Q. And do you see that 1080 relates to a scheduled meeting at which Dr. Auerbach was to present his results to the NCI TWG?

A. I see that, yes.

Q. Okay. Now, was Dr. Auerbach's -- strike that.

Was the experiment that's referred to in here as an experiment with smoking dogs by Dr. Auerbach a part of the NCI TWG or was it done independently; do you know?

A. I believe this was independent.

Q. Do you know whether Dr. Auerbach conducted any experiments on beagle dogs as a part of the NCI TWG program?

A. I don't recall whether he did or not as a part of NCI program.

Q. Now, with respect to Exhibits 1080 and 1081, they both reflect -- reflect the presence of scientists and lawyers; correct?

A. Yes.

Q. With respect to other meetings, if any, that you may have held with respect to the activities, your

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activities, on the NCI TWG, was it common or not for lawyers to be present?

A. It was not common --

MR. O'FALLON: Objection, leading.

A. -- for lawyers to be present.

Q. Now, Dr. Senkus, how long -- well strike that.

Do you recall when it was that the NCI TWG program was initiated?

A. Initiated, you're talking about TWG program?

Q. Yes, sir.

A. Yeah, initiated about '68. I -- I don't know the exact year, but in that period.

Q. And you indicated yesterday that you were a representative or the representative of Reynolds to the NCI TWG program.

A. Yes, uh-huh.

Q. Was that true throughout the history of the NCI TWG?

A. Yes.

Q. Did anybody succeed you?

A. Yes, Dr. Rodgman I believe succeeded me.

Q. And do you recall approximately when that was?

A. Oh, '76, '77, sometime in there.

Q. Okay. Now, does the NCI TWG program continue to exist?

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A. It does not.
Q. What became of it?
A. It was terminated about 19 -- I'd say -- I'm guessing -- '79, '80, some -- I'm not sure of the exact date.
Q. Okay. And as part of the NCI TWG program, Dr. Senkus, they were evaluating what?
A. Evaluating, oh, some hundred -- over a hundred tests, evaluating the effect of various ways of processing cigarettes, additives, different forms of tobacco, evaluating the effect of that smoke on the skins of mice.
Q. The NCI TWG was evaluating both different cigarette design characteristics and doing biological testing --
A. Yes.
Q. -- with skin painting?
A. Uh-huh.
Q. When the NCI TWG was terminated at about 1979, what became, what happened to the animals?
A. I don't know.
Q. Were they killed?
MR. O'FALLON: Objection. He already stated he didn't know. Lack of foundation.
A. I -- I don't know.

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Q. Were there any final reports --

A. Oh, yes, yes.

Q. Were there --

MR. O'FALLON: Objection, leading.

Q. Were there any final reports that came out with respect to the animal experiments that were ongoing as of 1979?

A. Dr. Gori published results of each -- there were four tests made, and he published reports at the conclusion of each test period, and then he published a summary report of all five periods.

Q. Now, Dr. Senkus, Mr. O'Fallon also asked you about Exhibit 1053 yesterday. Do you recall that?

A. Yes.

Q. And in particular he asked you about paragraph number three under "RECOMMENDATIONS" on page one. He suggested that one of the reasons that Dr. Rodgman recommended that these manuscripts not be published at that time was what's referred to here as legal implications. Do you remember that?

A. Yes.

Q. Dr. Senkus, on page three Dr. Rodgman also refers, does he not, to another reason, which is that these manuscripts can be picked up by somebody and taken out of context to mislead them with respect to

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the meaning of this work?

MR. O'FALLON: Objection, leading, and that's actually a distinction without a difference.

A. That's what he states in this report.

Q. Now, Dr. Senkus, let's turn to what was marked as Plaintiffs' Exhibit 1082. Do you recall Mr. O'Fallon asking you about this document entitled "INTRODUCTORY REMARKDS"?

A. Yes.

Q. Okay. In connection with his examination of you, you told Mr. O'Fallon that you played a role in the initiation of the biological research division.

A. Yes.

Q. Could you explain that, please.

A. When Dr. Bright arrived on the scene employed as the vice president of research, he and I discussed the advisability of doing some biological research, and we agreed that it would be desirable to do that. So then he cleared that with then chairman of the board of Reynolds Tobacco, and it was agreed at that time that we would proceed with the initiation of biological research.

Q. And when did Dr. Bright come to Reynolds; do you recall?

A. 19 -- May 1964.

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Q. Now, was Mr. Bowman Gray still with Reynolds in 1970?

A. I believe not.

Q. And why not, sir?

A. I believe he passed on.

Q. At the time that you met with Dr. Bright after he came on board --

A. Uh-huh.

Q. -- was there any discussion that you couldn't do biological research?

A. No, there was not.

Q. Did anybody say to you or did you say to anybody, "We can't do that"?

A. I did not say that or --

Q. Was there any suggestion by you or by anybody else that there was an agreement or a gentlemen's agreement that prohibited you from doing this?

A. Definitely not.

Q. Dr. Senkus, did you ever make any decisions that you could or could not do certain research on the basis of a rumored agreement or gentlemen's agreement?

MR. O'FALLON: Objection, leading.

A. Definitely not.

Q. Now, on -- Mr. O'Fallon referred your attention

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to page two of Exhibit 1082, and --

MS. FORBES: Dr. Senkus, page two.

MR. AVRAM: Page two. He's got two.

MS. FORBES: Okay.

Q. Excuse me, I'm sorry. For clarification of the record, there I was referring to the second page, not the page numbered two.

A. Okay.

Q. So let's just do it by Bates number, 50395 0746, the page entitled "CONFERENCE ROOM." Do you recall that?

A. Yes, uh-huh.

Q. And he referred on several times to the first sentence or, more correctly, part of the first sentence of the paragraph numbered one, and on one occasion I think he read the entire sentence. Would you read paragraph number one into the record, please.

A. "In-house biological testing in the smoking health area such as work we have been doing for the Scientific Advisory Board of the Council for Tobacco Research has been terminated. Any further biological testing ... may be needed in further developing smoking machines, et cetera will be referred to qualified independent research organizations. As you

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know, we have ... such organizations off and on" -- "we have used such organizations off and on for years."

Q. Now with respect to the smoking-and-health work that was being done within the biological research division, you referred to that yesterday as being very preliminary work; correct?

A. Definitely yes, uh-huh.

Q. And Mr. O'Fallon asked you if after the discontinuance of the biological research division in 1970 Reynolds contracted the continuation of this research to an outside lab. Do you remember that?

A. He asked me if we contracted for a continuation of this research with an outside laboratory?

Q. Do you remember him asking you that? If you don't remember him asking, that's fine.

A. I don't remember.

Q. Okay. Now, do you recall, Dr. Senkus, whether or not Reynolds was funding research virtually identical to research which was being done in the biological research division through, for example, CTR at that time?

A. Definitely.

MR. O'FALLON: Objection, leading.

A. It was funding, we were part of supporting CTR,

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and some of the work there was similar to the work we were conducting.

Q. And do you recall whether or not, Dr. Senkus, Reynolds was funding research which was virtually identical to some of the research in the biological research division through the AMA-ERF program at that time?

MR. O'FALLON: Objection, leading.

A. Yes, we did during that time.

Q. And indeed, Dr. Senkus, I don't know that we have them with them -- with us here, but there are a number of such articles that have been identified, aren't there?

A. Yes, uh-huh.

Q. Do you remember the names of any of those off the top?

A. The articles --

Q. Do you remember the names of any of those articles off the top?

A. No, I do not remember.

Q. Okay. By going back to this -- this page marked -- entitled "CONFERENCE ROOM," the reference that -- and we've seen a reference in another document, too, to a smoking machine.

A. Yes.

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Q. In fact I think a document referred to it as a Senkus smoking machine. Was that label ever applied to it at Reynolds?

A. No, huh-uh.

Q. Was this smoking machine made available to the, as referred to in paragraph one here, Scientific Advisory Board of The Council for Tobacco Research?

A. Yes, it was.

Q. And do you recall when that happened, sir?

A. Well, I don't know the exact date, but it was like in the middle to later '70s.

Q. Middle or later '70 or '70s?

A. '70s.

Q. Okay. Now, Dr. Senkus, you told Mr. O'Fallon that the biological research division was doing work in areas unrelated --

A. Yes.

Q. -- to smoking and health.

A. Yes.

Q. And I think you referred to pharmaceuticals as an example.

A. Yes.

Q. Okay.

A. Uh-huh.

Q. And if you look at paragraph two that

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Mr. O'Fallon didn't invite your attention to --

MR. O'FALLON: Objection to the characterization.

Q. -- does that relate to some of those other areas?

A. Yes.

MR. O'FALLON: And leading.

Q. Would you read that into the record, please.

A. "All synthesis of compounds in fields outside of tobacco and foods has been terminated. All biological work in these outside areas is being terminated, i.e., pharmaceuticals," fine -- "and fine chemicals and others."

Q. Okay. Now, Dr. Senkus, did you have any personal involvement with respect to Reynolds' interest or possible interest in pharmaceuticals?

A. Yes, I did have.

Q. And would you explain that to us, sir.

A. At one point Dr. Bright and I discussed probably acquisition or merging with a pharmaceutical firm, and indeed we made a trip to Parke & Davis in Detroit to establish if there was a mutuality of interests, either merging or some other arrangement.

Q. I'm sorry, who made this trip?

A. Dr. Bright and I.

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Source: http://www.industrydocuments.ucsf.edu/docs/qxhd0001

Q. And it was to Parke-Davis in Detroit?
A. Parke-Davis in Detroit.
Q. Okay. And when was this, sir?
A. Well it would have been -- it was early in '64, '65.
Q. To your knowledge, Dr. Senkus, did anything come of this overture which you and Dr. Bright made?
A. Insofar as I know, it was not brought to fruition.
Q. To your knowledge, did Reynolds ever acquire or merge with or be acquired by or merge with Parke-Davis?
MR. O'FALLON: Objection. This is outside the scope of direct.
A. Insofar as I know, as I said, it -- we did not acquire or merge with Parke & Davis.
Q. Now, one other question came up yesterday, Dr. Senkus, with respect to Dr. Nielson, and paragraph number four on the second page of Exhibit 1082, does that relate to Dr. Nielson?
A. "Dr. Nielson will be retained as a Research Associate."
Q. That's what -- that's -- you read it --
A. That's what he did.
Q. And that's what --

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THE REPORTER: Excuse me?

MR. CRIST: That's what it reads.

MR. O'FALLON: Objection, leading.

MR. CRIST: And that's correct.

MR. O'FALLON: Objection, leading.

Q. Was Dr. Nielson retained?

A. He was retained.

Q. Now if you turn with me to the next page, which is page numbered two, do you see any reference on there to a Dr. Price?

A. No, I don't see any reference to Dr. Price.

Q. Do you know of a Dr. Price who was employed in 1968, '69 or '70 by the research department at Reynolds?

A. I don't recall any such person having been employed.

Q. Dr. Senkus, there was some discussion yesterday of G7.

A. Yes.

Q. And G7 refers, does it not, to reconstituted tobacco sheet?

A. Yes, it does.

Q. Okay. What does reconstituted tobacco sheet consist of?

A. It consists of tobacco stems and also includes

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in the G7 some fines and some -- some fines of tobacco and some -- even in some cases some tobacco leaf.

Q. And --

And "fines" means small particles of tobacco?

A. Some particles of tobacco.

Q. Now the stems that are used in G7, do they have higher or lower nicotine levels than the leaf?

A. They have a lower nicotine level.

Q. So does the use of stems in G7 -- strike that.

Does the use of G7 in tobacco increase or decrease the level of nicotine that's actually in the cigarette?

A. It decreases.

MR. O'FALLON: Objection, leading.

Q. In --

During your tenure, Dr. Senkus, at Reynolds, was there more nicotine or less nicotine or the same level of nicotine in G7 as compared to the stems, the fines and perhaps the leaf that went into it? I guess my question is: Is nicotine added or lost in the manufacturing process during your tenure?

MR. O'FALLON: Objection, compound, leading.

Q. Let me try it again. I think I confused you.

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Can you tell us whether or not nicotine is lost in the manufacturing process for G7?

MR. O'FALLON: Objection, foundation.

A. Insofar as I know, it is not lost.

Q. Can you tell us whether or not nicotine is added to the nicotine that naturally occurs -- strike that.

Can you tell us whether or not during your tenure at the company nicotine was added to that naturally occurring in the component parts of G7?

A. I am -- insofar as I know, that we had never added nicotine to a commercial product during my tenure.

MR. CRIST: Let's take a break, if we can.

THE REPORTER: Off the record, please.

(Recess taken.)

BY MR. CRIST:

Q. Dr. Senkus, let me hand back to you Plaintiffs' Exhibit 1085. Do you recall that Mr. O'Fallon asked you some questions about this document --

A. Yes.

Q. -- yesterday?

He began that questioning on page three. Do you remember that?

A. So you say what was the question?

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Q. Do you remember Mr. O'Fallon began by asking you questions about this document on page three?
A. Okay.
Q. Do you remember that?
A. Yes.
Q. Let's start with page one. In your experience, that's where most people start with a document, isn't it?
MR. O'FALLON: Objection, leading.
Q. In your experience, that's where most people start reading a document?
MR. O'FALLON: Objection, leading.
A. Yes.
Q. Okay. Now, with respect to this document, Dr. Senkus, would you read the first paragraph of it, please.
A. Yes. You want me to read it?
Q. Yes, sir.
A. "Our life processes within the body are a complex series of chemical or biochemical reactions. Digesting food, going to sleep, waking up, the process of thinking, reacting to a stressful situation, reacting to a pleasant situation and going into" -- "into a state of exhilaration -- all these processes are dependent on chemical reactions. ...

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in each of these chemical reactions there is a certain key chemical which we ... call a regulator."

Q. And could you tell us whether or not, Dr. Senkus, this was the context in which you made these presentations --

MR. O'FALLON: Objection, leading.

Q. -- to management of RJR Tobacco Company and then later to management of RJR Tobacco International?

MR. O'FALLON: Objection, leading.

A. This was my introduction to this presentation.

Q. Can you tell us whether or not that was the context that you were trying to set for the discussion that followed?

A. Yes, yes.

MR. O'FALLON: Objection, leading.

A. Uh-huh.

Q. Now at the bottom, at the last paragraph on this first page of Exhibit 1085, Dr. Senkus, would you read that, please.

A. The last paragraph on page one?

Q. Yes, sir.

A. "Perhaps as many as 10,000 years ago -- he," man, "found some relief from stress by taking wine. Then later he learned that tea and coffee can be relied upon as stimulants."

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Q. Okay. And then turning to page two, was it in this context that you began to discuss smoking?

MR. O'FALLON: Objection, leading.

A. Yes.

Q. And in particular can -- would you read into the record what you say beginning with the third paragraph or the word actually begins "Now."

A. "Now, what happens in smoking - and how" --

Q. I'm sorry, right above that.

A. Oh, "In smoking the effect produced on the human body is ascribable mainly to nicotine."

Q. Okay. I want you to go back up to the other "Now," if you would, please, and read --

A. "Now in each case the effect is due to one major chemical constituent:

"In drinking it's alcohol

"In coffee and tea it's caffeine

"In smoking the effect produced on the human body is ascribable mainly to nicotine."

Q. And, Dr. Senkus, on page four, did you compare the alcohol and cigarettes or nicotine? I'd refer you to the paragraph that begins with the word "Compared."

A. "Compared to other physiological agents - for example alcohol - it is a relatively mild effect."

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We're talking about nicotine or smoking.
Q. And, Dr. Senkus, as you presented this to the management of RJR Tobacco Company in 1974 and RJR Tobacco International management in 1976, the comparison that you made was that the effect of smoking or nicotine was relatively mild compared to, for example, alcohol; is that correct?
MR. O'FALLON: Objection, leading.
A. That's correct. That's what it says and that's what I believe.
Q. Now --
MR. O'FALLON: Just -- just for clarification, it may be a little more helpful if you allow me to make my objection before you answer the question so we're not always --
MR. CRIST: I don't think he was purposely trying to override you.
MR. O'FALLON: I don't -- I'm not suggesting he is.
BY MR. CRIST:
Q. Now, Dr. Senkus, turn with me, if you would, to page three. Mr. O'Fallon invited your attention to the paragraph that begins "The nicotine in the blood." It's like the -- either the first full paragraph or the second full paragraph --

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A. Yeah, uh-huh.
Q. -- on this document. Do you remember him asking you about that?
A. Yes.
Q. And would you read that into the record.
A. "The nicotine in the blood acts upon the central nervous system and produces in the average smoker a sensation one could describe as both stimulating and relaxing."
Q. Can you tell us whether or not, Dr. Senkus, the same observation was made in the 1964 Surgeon General Advisory Committee report?
MR. O'FALLON: Objection, leading.
A. You're asking me --
Q. This biphasic effect of stimulation and relaxation, can you tell us whether or not that was discussed in the 1964 Surgeon General's report?
MR. O'FALLON: Objection, leading.
A. I don't recall.
Q. Now, if you go down with me to the next paragraph, would you read that into the record, please. "It is important" --
A. "It is important to note that an individual who smokes regularly thoroughly enjoys this sensation."
Q. And was this your belief at that time?

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A. Yes.
Q. And would you read the next paragraph, please.
A. "It can be assumed that the amount of nicotine that is required to get this desired effect varies from person to person. As we said - at 10 puffs a minute an average person from a non-filter" cigarette -- cigarette "gets about 180" -- "180 micrograms per nicotine in his blood ...."
Q. And, Dr. Senkus, this observation that you make that the amount of nicotine that's desired -- strike that.

The observation that you made that the amount of nicotine that's required to get the desired effect varies from person to person is exactly what you testified to this morning; is that right?
A. Yes.
Q. And, Dr. Senkus, throughout this document can you tell us whether or not you emphasize the importance of the tiny -- as you described it yesterday, the tiny amount of free nicotine as being important to taste?

MR. O'FALLON: Objection, leading.

Q. Let me -- let me do this, Dr. Senkus: Let me withdraw that question. Let me invite your attention -- invite your attention to page seven of

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this document. And do you see in there -- it's the first full paragraph. It starts with "The thing to remember."

A. Yes.

Q. And would you read that into the record, please.

A. "The thing to remember, the so-called mouth taste - brand" different -- "differentiation for the same tar - say for all 10 milligrams cigarettes - is pH dependent."

Q. And that's what you told Mr. O'Fallon yesterday afternoon and this morning?

A. Yes.

Q. And do you recall, Dr. Senkus, whether or not the issue of pH as being of possible importance was one which was also discussed in the 1964 Surgeon General Advisory Committee report?

MR. O'FALLON: Objection, leading.

A. Could you repeat that question, please.

Q. Yes, sir. The question is: Do you recall whether or not the issue that pH may or may not be important was discussed in the 1964 Surgeon General Advisory Committee's report?

A. It -- they didn't -- as I recall, they mentioned so-called alkalinity and acidity, which would imply pH.

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Q. That's what pH is, isn't it?
A. Yes, uh-huh.
Q. Okay. And --
And so that was discussed?
A. It was discussed.
Q. Okay. Now, let me hand you, Dr. Senkus --
A. Are you through with this?
Q. Yes.
A. Uh-huh.
Q. Let me hand you, Dr. Senkus, what was marked as Plaintiffs' Exhibit 1059.
A. Uh-huh, uh-huh.
Q. And do you recall that Mr. O'Fallon asked you a series of questions about the first paragraph under the heading "SUMMARY" on the first page?
A. Yes.
Q. And indeed, Dr. Senkus, he had you read every sentence in that first paragraph under "SUMMARY" except for one. Do you recall that?
MR. O'FALLON: Objection, leading.
A. Yes, uh-huh.
Q. And, Dr. Senkus, the next-to-last sentence, which he omitted, reads, does it not, quote, "The FTC 'tar' and nicotine has decreased" -- decreased -- "for all brands studied at about the same rate,"

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close quote? Do you see that sentence?
A. Which one is that now?
Q. Let me just find it. It starts right here.
A. Okay, uh-huh.
Q. Okay. Let me read it again.
Does it read "The FTC 'tar' and nicotine has decreased for all brands studied at about the same rate," close quote?
MR. O'FALLON: Objection, leading.
A. That's what it says here.
MR. CRIST: Why don't we go off the record for a second.
THE REPORTER: Off the record, please.
(Discussion off the record.)
BY MR. CRIST:
Q. Dr. Senkus, going back for just a second, Mr. O'Fallon asked you -- oh, strike that. I think we've already covered it.
Mr. O'Fallon asked you today about a document which he had marked as Plaintiffs' Exhibit 1060 and about a document which he had marked as Exhibit 1061. Do you recall him showing you those documents?
A. Yes.
Q. And with respect to Exhibit 1060, does it

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indicate who wrote this?

A. There's -- there's no indication of any signature here that I can see.

Q. You didn't write it, did you? Did you write this?

A. No, I did not, no.

Q. And turn with me, if you would, to page 50091 7546. And after number ten there is a paragraph in this document that starts with "I SEEM." Do you see that?

A. Item ten?

Q. Right after item ten.

A. "I SEEM"?

Q. Yes.

A. Uh-huh.

Q. Would you read that into the record, please.

A. "I SEEM TO BE GETTING PRETTY FAR AWAY FROM CHEMISTRY AND INTO MARKETING -- SO THIS IS PROBABLY A GOOD PLACE FOR ME TO END MY REMARKS. WITH A QUICK SUMMARY OF SOME NEW pH-RELATED WORK WE HAVE RECENTLY UNDERTAKEN."

Q. In your experience at Reynolds, Dr. Senkus, did Reynolds use chemists to do marketing?

A. No, they did not.

Q. Now with respect to this document, Dr. Senkus,

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did you ever authorize any research into the development of a brand for people who were under 18 years of age?

A. No, I never did such a thing.

Q. Are you aware whether or not anybody else within the research department ever authorized?

A. We never did that.

Q. Turning, if you would, to Exhibit 1061, Dr. Colby, as you described him to Mr. O'Fallon, was the manager or direct -- director of the science information --

A. Science information division.

Q. Okay. And that's within the research department?

A. Yes.

Q. And did the --

Did Dr. Colby or the science information division conduct marketing work for Reynolds?

A. Insofar as I know, they did not.

Q. Did you, Dr. Senkus, authorize any research as a result of Dr. Colby's memor -- strike that.

Dr. Colby's memorandum didn't go to you, did it?

A. No, it was directed to Mr. Blevins.

Q. And let me just take one thing.

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Mr. O'Fallon asked you a series of questions yesterday and today about whether or not you had seen a document before. Do you remember that?

A. Seen which document?

Q. Just a number of different documents before. Do you remember that?

A. Yes, uh-huh.

Q. Some of which were addressed to you, some of which weren't.

A. That's right.

Q. Some of which were copied to you, some of which weren't.

A. That's right.

Q. And when you answered him saying that you had seen a document before, were you referring to documents that you saw in the ordinary course of business or perhaps in preparation for this deposition?

A. In preparation for this deposition.

Q. So documents which would have been sent to you or copied to you, you -- you may well have seen in the ordinary course of business?

A. Yes.

Q. But other documents you simply saw --

A. I did not see them.

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MR. O'FALLON: Objection. That's leading.
Q. But other documents you simply saw because Mr. O'Fallon had designated them and you saw them in preparation?
A. Yes, uh-huh.
MR. O'FALLON: Objection. That's leading.
Q. Now, Dr. Senkus, with respect to Exhibit 1061, did you ever authorize the development of a cigarette of the kind which Dr. Colby appears to be advocating here for the youth market?
MR. O'FALLON: Objection, lack of foundation. I believe he's testified that that wasn't his job --
A. No, I did not.
MR. O'FALLON: -- to authorize a product.
Q. To your knowledge, if you refer with me for a second to page two, Dr. Senkus, can you tell us whether or not, to your recollection, Reynolds within a relatively few weeks of December 4th, 1973 test marketed any youth-appeal cigarettes?
A. I do not recall. I do not -- any such thing.
Q. Do you recall, Dr. Senkus, whether or not anytime during your employment with Reynolds Reynolds test marketed or marketed a cigarette -- well strike that.

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Do you recall whether or not during your tenure in 1973 or at any other time Reynolds' research department specifically developed a cigarette for the youth market?

A. No, there was not. We did not have that aim.

Q. Now, Mr. O'Fallon also asked you some questions today about a document which had been marked as Exhibit 1062. Do you remember that?

A. Yes.

Q. And I think he stated as part of one of his questions that this document was prepared after 1979. Do you remember that? You'll see on page two --

A. Uh-huh, yeah.

Q. -- there's a reference to the fact 1979.

You were no longer with the company, were you?

A. No, I was not.

Q. Now, he also invited your attention to the section on page two that talks about product characteristics.

A. Yes.

Q. And he read you three of the bullet points. Do you remember that?

A. Yes.

Q. How many bullet points are there?

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A. Six.
Q. The --
Let's talk about the ones he didn't mention. The first one says "MILDER SMOOTHER TASTE"; is that correct?
A. Yes.
Q. The third one says what?
A. "HIGHER SMOKE PH."
Q. No, the third one. Yeah, he read that one.
A. Oh, third one.
Q. He read that one. Let's go to the third --
A. "MORE CHOCOLATE-BURLEY TYPE; POSITIVE FLAVOR WITHOUT NEGATIVE BURLEY CHARACTERISTICS."
Q. Okay. Why don't you read the fourth one, which he did read.
A. "CLEANER TASTE WITH MORE FREE NICOTINE."
Q. Read the fifth one, which he also read.
A. "STRONGER PHYSIOLOGICAL IMPACT WITH LESS HARSHNESS."
Q. Read the sixth one, which he did not read.
A. "DIFFERING FLAVOR EFFECTS DEPENDING UPON ... TYPE TOBACCO AMMONIATED."
Q. Dr. Senkus, Mr. O'Fallon also showed you what he had marked as Plaintiffs' Exhibit 1087, and he asked you about that this morning. Do you remember that?

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A. Yes, uh-huh.
Q. The -- in the course of his questioning, Dr. Senkus, he read to you the third sentence in the second paragraph on page one. Excuse me. And I'll strike that. I thought I had the exhibit numbers messed up.
In his examination, he asked you about the third sentence in the second paragraph of Exhibit 1087. Do you recall that?
A. Yes.
Q. Do you recall, Dr. Senkus, as you sit here today whether or not 1.3 milligrams of nicotine per cigarette was the sales weighted average in 1972?
MR. O'FALLON: Lack of foundation. Objection, lack of foundation and leading.
A. I do not recall that.
Q. Okay. Now in connection with your discussion of this document, Dr. Senkus, you referred to Dr. Russell --
A. Yes.
Q. -- in answer to one of Mr. O'Fallon's questions. Do you recall that?
A. Yes.
Q. Who is Dr. Russell?
A. He is -- if I remember correctly, he's a medical

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doctor that's done research on smoking at the University of London in England.

Q. Okay. Now turn with me, if you would, Dr. Senkus, to page seven. Mr. O'Fallon this morning -- I'm -- page number seven. I'm sorry.

A. Oh.

Q. Mr. O'Fallon this morning asked you about the second paragraph on page seven.

A. Yes.

Q. And he asked you whether or not, in summary, Dr. Teague was advocating the development of a cigarette with a modified tar-to-nicotine ratio. Do you remember a series of questions about that?

A. Development of a tar --

Q. Cigarette -- cigarette with a modified tar-to-nicotine ratio. Do you remember him asking you about that this morning?

A. Yes, uh-huh.

Q. Do you --

You mentioned a minute ago and also in response to questions by Mr. O'Fallon Dr. Russell.

A. Yes.

Q. Did Dr. Russell, a physician, as I recall you described him, from the University of London, --

A. Yes.

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Q. -- discuss modified tar-to-nicotine ratios?
A. At great length.
Q. And did he advocate --
A. He most certainly did.
Q. Now do you recall whether or not the issue of modified tar-to-nicotine ratios came up as part of the NCI TWG program?
A. It did come up.
Q. And Dr. Gori headed that program, did he not?
A. Yes, he did.
Q. And did Dr. Gori discuss modified tar-to-nicotine ratios?
A. He certainly did.
Q. Do you recall, Dr. Senkus, whether or not modified tar-to-nicotine ratios were also discussed in 1981 or other Surgeon General's reports?
MR. O'FALLON: Objection.
A. I --
MR. O'FALLON: 1981 or 1982?
A. You're -- you're asking me if it was discussed in --
Q. Do you recall whether or not it was discussed in the 1981 or other Surgeon General's reports, this idea of possibly developing a modified tar-to-nicotine cigarette?

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A. I don't recall, uh-huh.
Q. In addition to the advocacy by Dr. Russell and the advocacy by Dr. Gori of a modified tar-to-nicotine ratio cigarette, were there others in government or in the scientific community who were similarly advocating exploration or development of such a product?
A. I can't think of any right now.
MR. CRIST: Why don't we take five minutes, and I may be done.
THE REPORTER: Off the record, please.
(Recess taken.)
BY MR. CRIST:
Q. Dr. Senkus, my colleague reminds me that I forgot to ask you something that I had meant to ask you with respect to the biological research division, so if you can bear with me for a couple more minutes, I'd appreciate it. Okay?
A. Okay.
Q. In discussing the biological research division, Dr. Senkus, perhaps in connection with Exhibit 1082, which is "INTRODUCTORY REMARKDS," or at some other point in time yesterday, you referred to Penick & Ford. Do you recall that?
A. Yes, uh-huh.

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Q. What was or is Penick & Ford?
A. Penick & Ford was a corn prepared -- used corn to prepare things like starch, manufactured starch from corn, and made corn oil.
Q. Can you tell us whether or not, Dr. Senkus, any work in support of Penick & Ford was being done by the biological research division?
A. Yes, it was. There was some work done for Penick & Ford in that division.
Q. Okay. What became of Penick & Ford?
A. We were asked by the government to divest Penick & Ford.
Q. So Reynolds owned or was somehow affiliated with Penick & Ford?
A. Yes, a wholly-owned subsidiary.
Q. And the government required you, as you understood it, to divest yourself --
A. Yes.
Q. -- of that interest?
A. Yes.
Q. Okay. And do you recall approximately when that was, Dr. Senkus?
A. In the period of '69, in that -- in that period.
Q. Before the biological research --
A. Yes.

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Q. -- division was closed?
A. Yes.
MR. CRIST: Okay. I have no further questions.
THE REPORTER: Off the record, please.
(Discussion off the record.)

ADVERSE EXAMINATION

BY MR. O'FALLON:
Q. Dr. Senkus, in response to questioning from Mr. Crist, you talked a little bit about the research that was ongoing at the biological research division at the time that that division which we've called the Mouse House was shut down. Why don't you list for me those ongoing projects at the time it was shut down.
A. Well aside from the smoking-and-health so-called investigations --
Q. Well let's list those. List for me the smoking-and-health investigations that were ongoing at the time you shut down the Mouse House.
A. We were developing a smoking machine for inhalation research -- that was one thing -- and we attempted to familiarize ourselves with exposure of animals to smoke.
Q. Okay. Which animals?
A. Well we had mice. We had contemplated using

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gerbils; we found later they were not suitable because they were too difficult to manage. We had rabbits and mice and --

Q. Did you have cats? Cats?

A. Cats?

Q. Cats. Did you have cats?

A. I don't -- well, I don't recall.

Q. What other projects were you doing --

A. Well --

Q. -- on the smoking-and-health research?

A. Oh, smoking and health.

MR. CRIST: Let me object this is all beyond the scope, but go ahead.

MR. O'FALLON: Well no, it's not.

A. In -- in order to enable us to carry on smoking-and-health research in this area, it covered, you might say, a wide area of tests, and so whatever we did was in a sense just to get familiar -- familiarize ourself how to conduct these experiments. So I -- I emphasize again that all this work was of very preliminary nature and the people we employed in -- in most of them, as far as I know, had been new to this area, so they had to gain the experience on how -- how to carry on this research.

Q. Okay. You testified when Mr. Crist asked you

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certain questions that virtually identical, I believe was your word, research as you were doing at RJR was also being undertaken at CTR, so I'd like to ask you.

MR. SCHEINER: Objection, misstates the testimony.

Q. What CTR --

What CTR study involved the inhalation of smoke into the lungs of mice? What was that CTR study?

MR. SCHEINER: Objection.

A. Well, the -- I -- at this point, over this period, the SAB approved on an annual basis, I would say, maybe over that period, I'm guessing, as many as 50 projects.

Q. Give me the name of the CTR study concerning the inhalation of smoke by mice and the effects of that.

MR. SCHEINER: Object to the form.

A. At this point I cannot remember any specific study.

Q. Okay. Give me the name of the CTR inhalation study involving gerbils.

A. Well -- oh, no.

MR. SCHEINER: Object to the form.

A. No, this is -- I don't know whether they tried gerbils or not, but this was just an idea that

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Nielson had, let's try gerbils, but I -- I cannot tell you whether they did or not in the CTR study.

Q. Give me the name of the CTR study that involved inhalation tests on rabbits that was ongoing at this same time that you shut down your Mouse House.

MR. SCHEINER: Object to the form.

A. There may have been, as far as I know.

Q. Well you didn't testify that there may have been. You testified that there were virtually identical studies, so give me the name of that study.

MR. CRIST: I object to that.

MR. SCHEINER: Object, mischaracterizes the testimony.

MR. CRIST: He also testified that he could not remember the names of the articles, and now you're asking him --

MR. O'FALLON: I want the name of the study. You're -- you're suggesting that CTR actually published an article. As we know, CTR often never published articles, so I'm asking the name of the study.

MR. SCHEINER: Object and move to strike.

MR. CRIST: Move to strike.

BY MR. O'FALLON:

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Q. Give me the name of the study. Give me the investigator who was doing the inhalation tests on rabbits for the CTR.

MR. SCHEINER: Object to the form.

A. I do not recall specifically any. I'm talking in general terms. You see, I'm talking in general terms that one can logically say that of the large number of studies which were being -- being conducted by CTR, would have included some of those types of studies.

Q. Is it your testimony that all the work that you did at Reynolds was duplicative of CTR's work?

A. All the work?

MR. SCHEINER: Object to the form.

Q. All your biological work. Is it your testimony that all of your biological work from '67 to '70 was duplicative of CTR studies?

A. Well --

MR. SCHEINER: Objection.

A. -- you see, much of our work that we conducted was just getting the know-how how to conduct these studies.

Q. Okay. And again you can't tell me the name of the CTR study that involved an inhalation test being conducted on rabbits; correct?

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MR. CRIST: Objection, asked and answered.

MR. SCHEINER: Objection.

A. I -- no, I cannot. I don't know.

Q. How about the biological tests you were doing regarding smoking? What biological tests were you doing regarding smoking or tobacco at the time you shut down the Mouse House?

MR. CRIST: Objection. It's been asked and answered.

A. Well that -- all that is listed in reports that Dr. Nielson -- in his monthly reports, so it's -- it's in those reports.

Q. Is it your testimony that if I go and look at all those monthly reports, that someplace I will find a corresponding project at CTR?

MR. CRIST: Objection to the form of the question.

MR. SCHEINER: Objection, mischaracterizes the testimony. Also this line of questioning is beyond the scope.

MR. O'FALLON: You know, "objection" does it. Read the order, sir.

MR. SCHEINER: A beyond the scope objection I think has to be stated, and I'm stating it.

MR. O'FALLON: No, it doesn't. Why don't

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you go read it.

MR. SCHEINER: It's beyond the scope. CTR was not mentioned on the direct examination.

A. As I sit here, this happened many, many years ago. I cannot state a specific study.

Q. Okay. My question was: If I go back to Dr. Nielson's reports, assuming I have them all, and go through it and look at the biological research, am I going to find a corresponding research project someplace over at CTR during that time period?

MR. CRIST: Objection to the form.

MR. SCHEINER: Objection.

A. We're talking about in general terms the kind of work that was going on could be found in the CTR studies in general terms, but as to any specificity, I cannot give you a specific name of a project.

Q. So you can't really tell me that the work you were doing at RJR was virtually identical to the work that was being done at CTR; correct?

MR. CRIST: Object to the form of the question.

A. Identical? I repeat, it was in general terms. In other words, these were very preliminary studies. And for example, I'm just using an example -- whether or not we did that specifically, I don't know -- but

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if we were investigating, say, some enzymological effect, that you could find in those studies likely and also an enzymological study.

Q. I'm going to move to strike as nonresponsive.

My question was that as you sit here today you can't tell me that the work you were doing at RJR during that short three-year period you had the Mouse House was virtually identical to the work that was being done at CTR, can you?

MR. CRIST: Object to the form of the question, asked and answered.

A. Well that's virtually identical. I just go back and I repeat. I think I'm answering your question and I'm sincere that in general terms smoking-and-health research as we were looking at it and just doing very preliminary way was being done at CTR.

Q. When Dr. Gori ended his animal work at NCI, I believe it was your testimony on redirect that he issued a final summary report; correct?

A. Of all the studies.

Q. When RJR shut down its laboratories, it did not issue a final summary report, did it?

A. Well, you must remember that the work we did in TWG was, in -- in the opinion of the TWG, the work

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was finished. The final analyses were made, and we made a rather thorough study by statisticians of the significance of the results which were obtained, and that was published.

Q. So are you stating that the difference between what Dr. Gori did and what R.J. Reynolds did was that in Gori's case NCI allowed him to continue the work till its conclusion; whereas, with RJR, they shut it down before they got to that point?

MR. CRIST: Object to the form of the question, lack of foundation.

A. You see, I -- I don't get the comparison there. The -- each of the four tests which were conducted by Gori were carefully planned and it took, I think, maybe one or two years to complete it. The results were carefully analyzed so that it justified a complete summary report. Our work was of a very preliminary nature -- I kept emphasizing that -- and it would not warrant any kind of publication.

Q. Was your work carefully planned?

A. For that particular period, I think it -- it was carefully planned.

Q. Was it carefully conducted?

A. It was carefully conducted.

Q. So the only real difference is, is that it was

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terminated before you had a chance to finish by your corporate head; correct?

MR. CRIST: Object to the form of the question.

A. Well, yeah, what you're saying is it was carefully planned, but even though it was carefully planned, it was far from completion -- far from completion. I think we have to understand in biological research and we -- you -- you have people that don't have hands-on experience, that in that period it was not possible for us to complete -- to take -- to carry a project to -- to its completion.

Q. Did you tell that to RJR management when they told you they were going to shut down the research?

A. Well, when -- a decision was made to terminate the work, period.

Q. Did you tell management that, "This is important work. We need to complete it"?

A. Well, it was understood that if there's any biological work to be done, it would be done outside the company and that the management decided, that particular management decided, to stop the work.

Q. Did you tell RJR management that this was important work and that they should not shut down the Mouse House?

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A. Well, we did discuss this. We discussed whether or not we should continue it with the present capability. It was decided that if it is to be continued, it is better to continue it at a place where there are better, more adequate facilities to -- to -- to com -- to continue the work.

Q. Such as --

A. Such as CTR.

Q. Or Industrial Bio-Test; right?

A. Well, at that time I would say that Industrial Bio-Test may not have been equipped to adequately continue that particular kind of work.

Q. Okay. Did you move any of your ongoing experiments to CTR researchers at the time that you shut down the Mouse House?

MR. CRIST: Objection. It's asked and answered in -- in your original examination, is beyond the scope of my direct.

MR. SCHEINER: Objection to form.

A. Oh.

Q. Got to answer the question.

A. Oh, I thought -- well I -- I didn't know I had to answer the question, but --

Q. Let me ask it again.

A. Okay.

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Q. Did you move any of your ongoing experiments to CTR researchers at the time you shut down the Mouse House?

MR. SCHEINER: Same objection.

A. Well, at the state that these experiments, very exploratory, I would like to emphasize that. I think you are ascribing too much significance to the status of these experiments at the time the thing was shut down, so it would not have been logical -- the results were so preliminary, there was nothing to -- there was no concrete, shall we say, project.

Q. So your answer is no, we didn't move any of those ongoing experiments to CTR?

MR. CRIST: Objection to the form of the question.

A. Because it would not -- it would not have been justified to do that.

MR. CRIST: Object to the form of the question on the basis that his answer was what his answer was.

Q. Now I believe Mr. Crist had you take a look at some of our previously marked exhibits, including an Exhibit 1051, "Smoking and lung cancer: A second opinion." Do you recall that?

A. This unpublished thing here?

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Q. Well you don't know whether it's published or not, do you?
A. Well I have never seen it.
Q. Well that doesn't mean it's not published, does it?
MR. CRIST: Objection. You're just being argumentative with him.
Q. You were out of the country for five years. It might have been published while you were out of the country; correct?
MR. CRIST: Objection. You're being argumentative.
Q. Isn't that true, sir?
A. Huh?
Q. You were out of the country for five years. It might have been published during that time period?
MR. CRIST: Objection, calls for speculation.
A. You're asking me may or may it not have been published?
Q. My question is: You can't tell me as you sit here today for certain that that was not published?
A. No, I cannot.
Q. Take a look at 1051. Now Mr. Crist, in having you look at 1051, also marked a single page of the

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report of the Surgeon General from 1982 entitled "The Health Consequences Of Smoking, CANCER"; correct?

A. Yes.

Q. In that Surgeon General's report, did the Surgeon General conclude that there was a causal connection between cigarette smoking and lung cancer?

MR. CRIST: Objection, calls for hearsay, beyond the scope.

A. Did he conclude?

Q. Yeah, in that 1982 study.

A. I'm not -- I'm not familiar with that.

Q. In any event, Mr. Crist didn't give you that portion of the study, did he, where the conclusions of the study are listed?

A. You asked me did he or did he not?

Q. He didn't, did he?

A. I didn't see it.

Q. He didn't give you the full study; right? He only marked one page?

A. That was what was presented to me.

Q. Right. He -- he directed you specifically to a sentence that says, quote, "Attempts to induce significant numbers of bronchogenic carcinoma in laboratory animals were negative in spite of major

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efforts with several species and strains"; right?
A. That's what it said.
Q. At no place in that sentence did they say they were unable to induce any bronchogenic carcinoma; right?
A. I'd have to look at that.
Q. There. I believe Mr. Crist highlighted that sentence for you in the exhibit.
A. Oh, okay, uh-huh.
Q. It simply says that they weren't able to induce significant numbers of bronchogenic carcinoma; right?
A. That's what it says.
Q. It doesn't say they were -- were unable to produce any; right?
A. As I read that -- well that statement says what it says.
Q. Right. And it doesn't say that we induced no tumors, does it?
A. Well it says what it says.
Q. And you know from the Auerbach study that he believed that he induced bronchogenic carcinoma in his animals; correct?
MR. CRIST: Objection to the form of the question, also object to lack of foundation.

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A. Well now you talk about Auerbach, as -- as my understanding is that those results were in a sense found not -- were not substantiated by anybody.

Q. Well I --

A. Uh-huh.

Q. I understand that you and your colleagues in the tobacco industry didn't agree with it, but he still reported them and published them in a journal; correct?

MR. CRIST: Objection to the form of the question.

A. I'm not familiar that he did publish it in a journal.

Q. You testified on your redirect with Mr. Crist that he did.

MR. CRIST: Objection.

A. No, but he submitted it. Whether it was published or not, I don't know that I read that.

Q. It's my recollection that you testified that it was published.

MR. CRIST: Objection to what your rec -- object to what your recollection might be or might not be. The record will speak for itself.

Q. Was it published?

A. I don't recall that it was published.

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Q. Okay. In any event --
A. Uh-huh.
Q. -- you knew and R.J. Reynolds knew that at least one investigator believed that he had produced bronchogenic carcinoma in a laboratory animal due to cigarette smoke exposure; correct?
A. You talk about Auerbach?
Q. Yes.
A. Uh-huh.
Q. And so the statement in Exhibit 1051 where it says, quote, "But despite elaborate and costly research, not one of these smoke-inhalation experiments has ever produced the lung cancer it was looking for" is incorrect based on R.J. Reynolds' own knowledge; correct?
MR. CRIST: Objection.
A. I guess we've gone through that, and my recollection is that the work of Auerbach was not -- was not -- there was no validation of this by -- by scientists.
Q. Auerbach was a scientist and a respected scientist; correct?
A. Well, my impression is that, based on the examination of his work, he did not have, shall we say, sufficient information to conclude that there

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was indeed that kind of cell damage.
Q. But that's not what you state --
That's not what R.J. Reynolds states in this advertisement. They simply state that no one has ever produced a lung cancer. They don't state that "People have produced lung cancers and we disagree with their findings" or "People have produced lung cancers and have reported those lung cancers but we have some questions." They make a point-blank statement that no one has ever produced a lung cancer, and that's simply not true based on what you yourself reported back to RJR Reynolds Tobacco Corporation; correct?
MR. CRIST: Object to the form of the question and your closing argument.
A. Well, I just restate that the decision of the scientific community by people experienced in the work did not find the experiment to be well substantiated.
Q. You and Mr. Crist also discussed these meetings that the industry apparently had with Dr. Gori, and specifically the document you were referring to was a discussion about a meeting with Dr. Gori to discourage him to not fund additional work by Dr. Auerbach. Were closed-door meetings between the

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tobacco industry and government employees regulating tobacco the norm?

MR. CRIST: Object to the form of the question, no foundation.

A. Were they --

Q. The norm.

A. -- normal?

Q. Yeah, was that --

A. No, definitely not.

Q. Okay. So you didn't make a practice, you as members of the tobacco industry, to go to Dr. Gori and have meetings with him without other people present; correct?

MR. CRIST: Object to the form of the question, no foundation.

A. Did -- you say made a practice or not made a practice?

Q. Was it or was it not your practice to have these closed-door meetings with Dr. Gori?

MR. CRIST: Same objection.

A. It was not a practice at all to do that.

Q. So this particular meeting between the tobacco members of the Tobacco Working Group and Dr. Gori to discourage Dr. Gori from funding this Auerbach work was a rather exceptional circumstance?

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MR. CRIST: Objection to the form of the question, no foundation.

A. Well to begin with, we thought in this particular case it was worthwhile to present the facts to Dr. Gori and decide -- he was then to -- able to -- so that based on the evidence presented he could decide whether to carry -- to do it or not to do it.

Q. Before having that meeting with Dr. Gori, did you call up Dr. Auerbach and state, "We're going to present the following facts to Dr. Gori. You should be aware of them so that you can, you know, comment on them and make any additional comments you want to make"?

A. No, we did not do that.

Q. Yeah. Did you call the other members of the Tobacco Working Group who weren't employed by the industry and say, you know, "We're going to go have a closed-door meeting with Dr. Gori, but here's what we're going to talk about so you can feel free to rebut that"? Did you do that?

MR. CRIST: Objection to the question. There's no foundation for this. It's just argument.

A. I think in this particular instance it would not have been necessary. All we were doing is presenting

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data to Dr. Gori, and he could decide one way or another whatever to do with that.

Q. Finally, did you usually find it necessary, you the tobacco members of the Tobacco Working Group, to have your lawyers consult with you about what were basically scientific issues?

MR. CRIST: Object to the form.

A. You say "usually"? It was -- no, we did not do that.

Q. Okay. So when you have Shook, Hardy & Bacon and two Philip Morris lawyers in on this meeting before you go in to hear Dr. Auerbach's work, that's not a typical meeting for you?

A. Definitely not a typical meeting.

Q. The lawyers were there because they were very concerned about the fact that someone had found a humanlike lung cancer in the lung of a dog following smoke exposure; right?

MR. CRIST: Objection to the form of the question, calls for speculation.

A. Could you repeat that question again.

Q. The lawyers were there at that meeting concerning --

A. Yes.

Q. -- Dr. Auerbach's study --

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A. Uh-huh.
Q. -- because they were concerned about the fact that this researcher had found a humanlike lung cancer in the lung of a dog following cigarette smoke exposure?
MR. CRIST: Same objections.
A. I am not in a position to judge whether they were concerned or not.
Q. Did they ever raise a concern during that meeting that this could have a significant negative impact on the tobacco industry's attempt to defend itself in ongoing smoking-and-health litigation?
MR. CRIST: Object to the form of the question. This arguably moves into a privileged area.
A. I don't recall any comments by the lawyers in this meeting. That's a long time ago --
MR. CRIST: Okay. That takes care of it.
A. -- and I don't recall anything.
Q. It doesn't mean they remained silent during the entire meeting, though, does it?
A. I don't know.
Q. Do you know whether they took notes and made memos of that meeting?
A. I don't know. I don't recall.

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Q. Finally, Dr. Crist --

MR. CRIST: Dr. Crist.

Q. Or Mr. Crist. I elevated him.

Mr. Crist --

MR. CRIST: I'll take it.

Q. -- several times made comments that there were certain lines in certain documents that I didn't ask you to read; correct?

A. That's what he asked.

Q. Do you understand that the jury, providing R.J. Reynolds doesn't object to it, will be given all the documents I've asked you questions about so they can read those documents in their entirety?

A. You're -- you're telling me --

Q. Do you understand that the ladies and the gentlemen of the jury will be given all of these documents so that they can read all of these documents in their entirety and then judge those documents for themselves?

MR. AVRAM: Dan, in all fairness, he's not familiar with what happens in a trial.

A. You're telling me something?

Q. Do you now understand that?

A. Now you're -- you're telling me this could happen? Is that what you're doing?

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Q. Yes.
A. Yes. So I hear you.
Q. Okay. So you understand the jury can clear that up; correct? They can read the documents and judge for themselves; correct?
A. Well if -- if that happens, it happens.
MR. O'FALLON: I have no further questions.
THE REPORTER: Off the record, please.
(Discussion off the record.)
MR. CRIST: Yes, we've had a brief discussion off the record with respect to whether or not a redirect following Mr. O'Fallon's recross is permitted. It is his position that the order doesn't provide for it; therefore, it's not permitted. And I am acceding to that interpretation of the order because he's more familiar with the court's orders than am I.
Is that a correct statement of your position?
MR. O'FALLON: That's how I read the order and so far that's how all of these depositions have been conducted.
MR. CRIST: Okay.
MR. O'FALLON: But again I don't know that anybody has specifically brought it up. This -- this

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is the first time, in my experience, where someone has even attempted to go again.

MR. CRIST: Okay. Well there were just a couple of questions there where you'd cut him off, and I was just going to come back on those. But that's fine. That's your interpretation. So be it. I'll accede to that for purposes of this deposition. If it needs to get fought out later, it gets fought out later.

MR. O'FALLON: Sure.

(Deposition recessed at 12:11 o'clock p.m.)

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C E R T I F I C A T E

I, William C. LaBorde, hereby certify that I am qualified as a verbatim shorthand reporter; that I took in stenographic shorthand the testimony of MURRAY SENKUS at the time and place aforesaid; and that the foregoing transcript consisting of pages 267 through 391, Volume II, is a true and correct, full and complete transcription of said shorthand notes, to the best of my ability.

Dated at Winston-Salem, North Carolina, this 17th day of June 1997.

WILLIAM C. LaBORDE
Registered Professional Reporter
Notary Public

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C E R T I F I C A T E

I, MURRAY SENKUS, the deponent, hereby certify that I have read the foregoing transcript consisting of pages 267 through 391, Volume II, and that said transcript is a true and correct, full and complete transcription of my deposition, except per the attached corrections, if any.

(Please check one.)

____ Yes, changes were made per the attached (no.) ____ pages.

____ No changes were made.

MURRAY SENKUS
Deponent

Sworn and subscribed to before me this day of 199__.

Notary Public

My commission expires: (WCL)

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